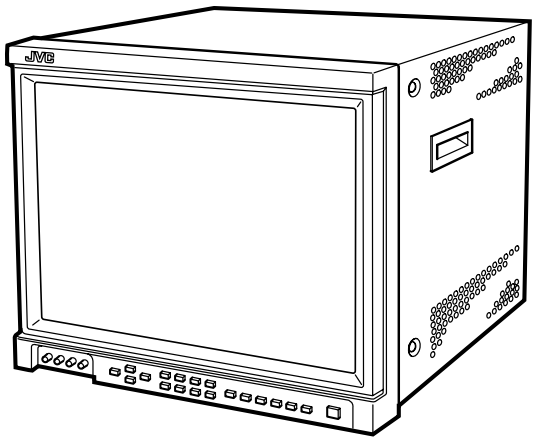
JVC

SERVICE MANUAL

MULTI-FORMAT MONITOR

BASIC CHASSIS
R1

DT-V1710CG/U
DT-V1710CG/E



For the specifications, adjustments or part lists of optional board IF-C01PNG (NTSC/PAL video input card) and IF-C01COMG (Component/RGB input card), refer to service manual DT-V1700CG/E (No.51899).

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No. 52152
2003/9

SPECIFICATIONS

Items	Contents
Type	Multi-format monitor
Picture Tube	17” Flat
Effective Screen Size	33cm(13”) × 25cm(9-7/8”) / 41cm(16-1/4”) [measured diagonally]
Input Signal Frequency	Horizontal : 15kHz/27kHz – 45kHz Vertical : 50Hz – 80Hz
Video Band	Component : 25MHz (-3dB) Video (Y/C) : 8MHz (-3dB)
Horizontal Resolution	1080/60i : 800 TV lines Video (Y/C) : 600 TV lines
Compliant Video Signal	NTSC (3.58 MHz)/PAL (4.43 MHz) (using the IF-C01PNG) 480i/576i/480p/576p/1080i (50 Hz/60 Hz/24psF)/720p (50 Hz/60 Hz) (using the IF-C01COMG) D1 serial digital (using the IF-C01SDG) HD serial digital (using the IF-C12HSDG)
Input Terminals	Installing an optional input card in SLOT1, 2, or 3 is required. INPUT A/INPUT B : Terminals on the input card in SLOT1. INPUT C/INPUT D : Terminals on the input card in SLOT2. INPUT E/INPUT F : Terminals on the input card in SLOT3.
Remote Inputs	Point-of-contact connection, 1 line, D-sub connector (15-pin 3-line) Serial connection, 1 line, D-sub connector (9-pin), compliant to RS-485
Audio Output	1W (monaural) 3-1/8” (8cm) round speaker ×1
Environmental Conditions	Operating Temperature : 5°C – 35°C (41°F – 95°F) Operating humidity : 20% – 80% (non-condensing)
Power Requirements	120V/230V, 50Hz/60Hz
Power Consumption	1.56A/0.9A (including input card)
Dimensions (W × H × D)	39.5cm(15-5/8”) × 33.4cm(13-1/4”) × 46.7cm(18-3/8”) (not including wide mask and input card)
Mass	23.7 kg (not including wide mask and input card)
Accessory	AC power cord (2.5 m) x1 Power cord holder x 1 (case and cover) Screws x 2 (Power cord holder) Wide Mask x 1 Screws x 4 (Wide Mask)

NOTE : Design and specifications subject to change without notice.

SECTION 1
PRECAUTION

1.1 SAFETY PRECAUTIONS

(1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

(4) **Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.

(5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.).
If above note will not be kept, a fuse or any parts will be broken.

(6) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

(7) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

(8) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

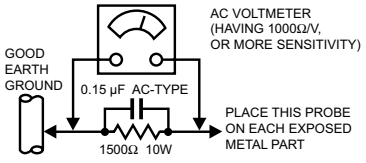
(9) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(10) **Isolation Check**
(Safety for Electrical Shock Hazard)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

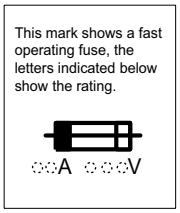
a) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second. (. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

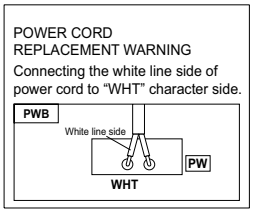
b) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a “Leakage Current Tester”, measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

- **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



(11) **High voltage hold down circuit check.**
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
See **“X-RAY PROTECTOR ADJUSTMENT/CHECK”** on page 1-44.



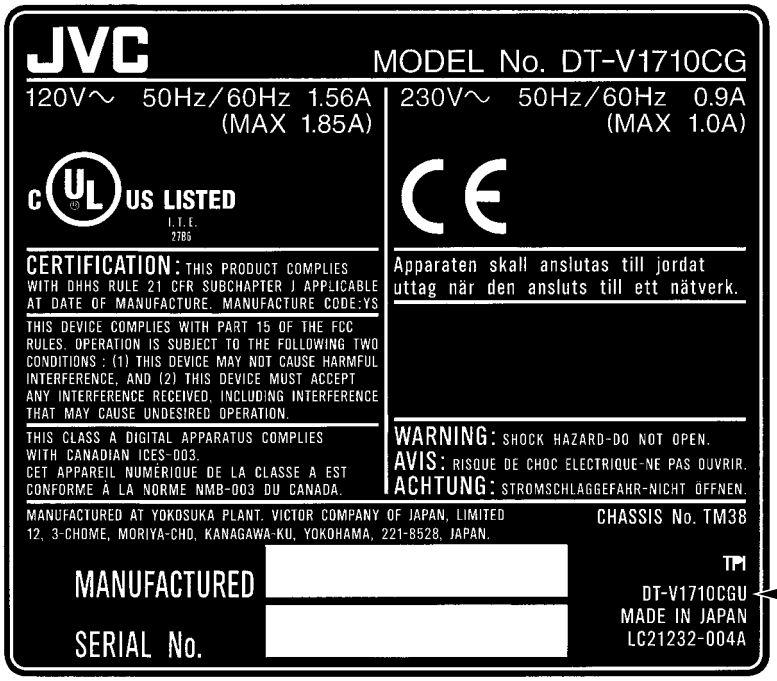


SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 HOW TO IDENTIFT MODEL

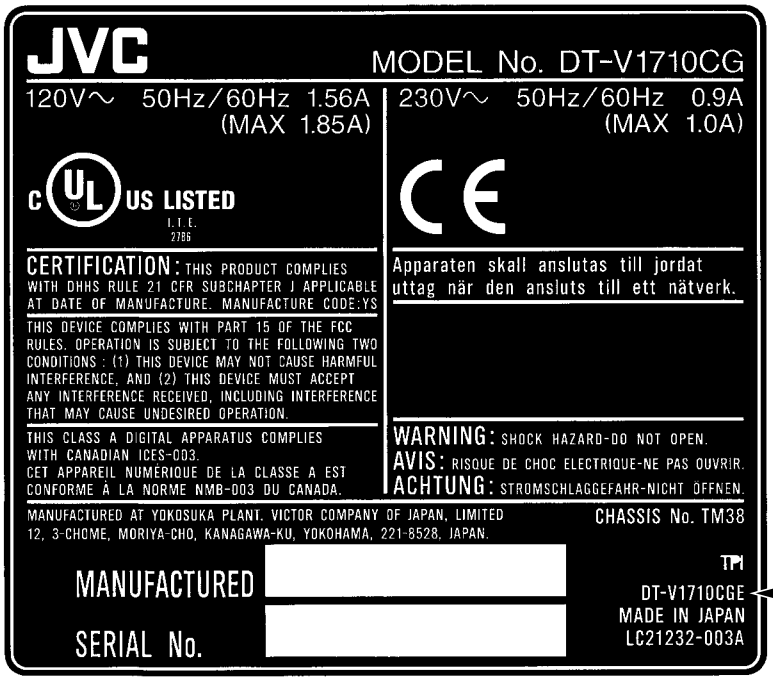
Please check the destination and the version of your model by RATING LABEL.

■ **DT-V1710CG/U [FOR NORTH AMERICA MODEL]**


JVC
MODEL No. DT-V1710CG
120V~ 50Hz/60Hz 1.56A
(MAX 1.85A)
230V~ 50Hz/60Hz 0.9A
(MAX 1.0A)
c UL US LISTED
I.T.E.
2786
CE
CERTIFICATION: THIS PRODUCT COMPLIES WITH DHHS RULE 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE. MANUFACTURE CODE:YS
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS : (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.
CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.
Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.
WARNING: SHOCK HAZARD-DO NOT OPEN.
AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.
ACHTUNG: STROMSCHLAGGEFAHR-NICHT ÖFFNEN.
MANUFACTURED AT YOKOSUKA PLANT. VICTOR COMPANY OF JAPAN, LIMITED
12, 3-CHOME, MORIYA-CHO, KANAGAWA-KU, YOKOHAMA, 221-8528, JAPAN.
CHASSIS No. TM38
MANUFACTURED
SERIAL No.
TPI
DT-V1710CGU
MADE IN JAPAN
LC21232-004A

← INDICATED “DT-V1710CGU”

■ **DT-V1710CG/E [FOR EUROPE AND ASIA MODELS]**


JVC
MODEL No. DT-V1710CG
120V~ 50Hz/60Hz 1.56A
(MAX 1.85A)
230V~ 50Hz/60Hz 0.9A
(MAX 1.0A)
c UL US LISTED
I.T.E.
2786
CE
CERTIFICATION: THIS PRODUCT COMPLIES WITH DHHS RULE 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE. MANUFACTURE CODE:YS
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS : (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.
CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.
Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.
WARNING: SHOCK HAZARD-DO NOT OPEN.
AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.
ACHTUNG: STROMSCHLAGGEFAHR-NICHT ÖFFNEN.
MANUFACTURED AT YOKOSUKA PLANT. VICTOR COMPANY OF JAPAN, LIMITED
12, 3-CHOME, MORIYA-CHO, KANAGAWA-KU, YOKOHAMA, 221-8528, JAPAN.
CHASSIS No. TM38
MANUFACTURED
SERIAL No.
TPI
DT-V1710CGE
MADE IN JAPAN
LC21232-003A

← INDICATED “DT-V1710CGE”

SECTION 3
DISASSEMBLY

3.1 DISASSEMBLY PROCEDURE

CAUTION :

- Some parts are active even after the main power switch is set to OFF.
- Be sure to unplug the power cord from the power outlet before proceeding with disassembly or assembly of the unit.

3.1.1 REMOVING THE SLOT PANEL, TOP COVER AND REAR PANEL

(1) Unplug the power cord, remove the six screws **[1]** and remove the SLOT PANEL.
(2) Remove the fourteen screws **[2]** and then the two screws **[3]**.
(3) Open up the lower part of the TOP COVER slightly. Then pull the TOP COVER toward the rear and lift to remove it.
(4) Also remove the REAR PANEL.

3.1.2 REMOVING THE BOTTOM COVER

- Remove the SLOT PANEL, TOP COVER and REAR PANEL.

(1) Place the unit so that the side with the SLOT CHASSIS comes at the bottom.
(2) Remove the six screws **[4]** and pull the BOTTOM COVER toward the rear to remove it.

3.1.3 REMOVING THE SIGNAL PW BOARD, MOTHER PW BOARD AND REMOTE PW BOARD

- Remove the SLOT PANEL, TOP COVER and REAR PANEL.

(1) Disconnect the wire clamps and connectors as required.
(2) Remove the four screws **[5]** and unplug the SIGNAL PWB from the connector on the MOTHER PWB.
(3) Remove the two screws **[6]** and then remove the Joint Bracket.
(4) Remove the two screws **[7]** and then remove the SLOT CHASSIS by lifting it while pushing the claw **[C]** on the CHASSIS BASE.
(5) Remove the nine screws **[8]** and remove the MOTHER PWB.
(6) Remove the screw **[9]**, the four screwnuts **[10]** and the two screwnuts **[11]**, then remove the REMOTE PWB.

3.1.4 REMOVING THE CHASSIS BASE, SPEAKER AND S. CORRECTION PW BOARD

- Remove the SLOT PANEL, TOP COVER, REAR PANEL and SLOT CHASSIS.

(1) Disconnect the wire clamps and connectors as required.
(2) Remove the two screws **[12]** and pull the CHASSIS BASE toward the front to remove it.
(3) While disengaging the claw **[D]** on the CHASSIS BASE that is engaged with the rear of the SPEAKER, lift the SPEAKER to remove it (see Fig. 2).
(4) Remove the three screws **[13]** and then remove the PB BRACKET.
(5) Unplug the S. CORRECTION PWB from the connector on the MAIN PWB.

3.1.5 REMOVING THE CRT AND LED PW BOARD

- Remove the SLOT PANEL, TOP COVER, REAR PANEL, BOTTOM COVER, SLOT CHASSIS and CHASSIS BASE.

(1) Remove the four screws **[14]** and remove the SIDE BRACKETS.
(2) Also remove the CRT.
(3) Remove the two screws **[15]** and remove the LED PWB.

3.1.6 REMOVING THE FRONT CONTROL PW BOARD AND FRONT VR PW BOARD

(1) Remove the five screws **[16]** and remove the CONTROL BASE.
(2) Disconnect the connectors as required.
(3) Remove the three screws **[17]** and remove the FRONT CONTROL PWB.
(4) While slightly lifting the two claws **[E]** on the CONTROL BASE, remove the FRONT VR PWB.

3.1.7 DIAGNOSING THE MAIN PW BOARD

- Remove the SLOT PANEL, TOP COVER and REAR PANEL.

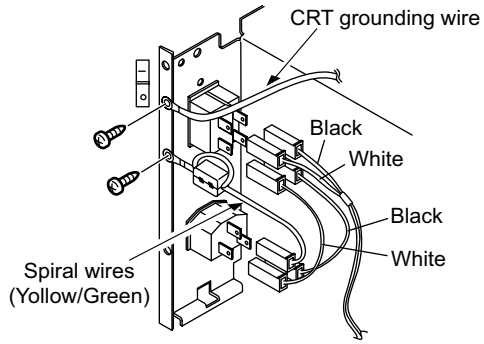
(1) Place the unit so that the side with the SLOT CHASSIS comes at the bottom, and remove the BOTTOM COVER.
(2) Now the diagnosis of the MAIN PWB is possible.

CAUTION :

- **The unit is unstable when it is placed on its side so please be careful that it does not topple over during work.**
- **Before turning the power on, ensure that the connectors in cluding the CRT grounding are connected properly.**

CAUTION

Before turning the power on, ensure that the spiral wires (Yellow/Green) and the CRT grounding wires are connected properly.



View from the rear of the AC inlet

3.1.8 NOTE CONCERNING WIRE CLAMPING

- Be sure to reconnect the wire clamps that have been disconnected during the above work.

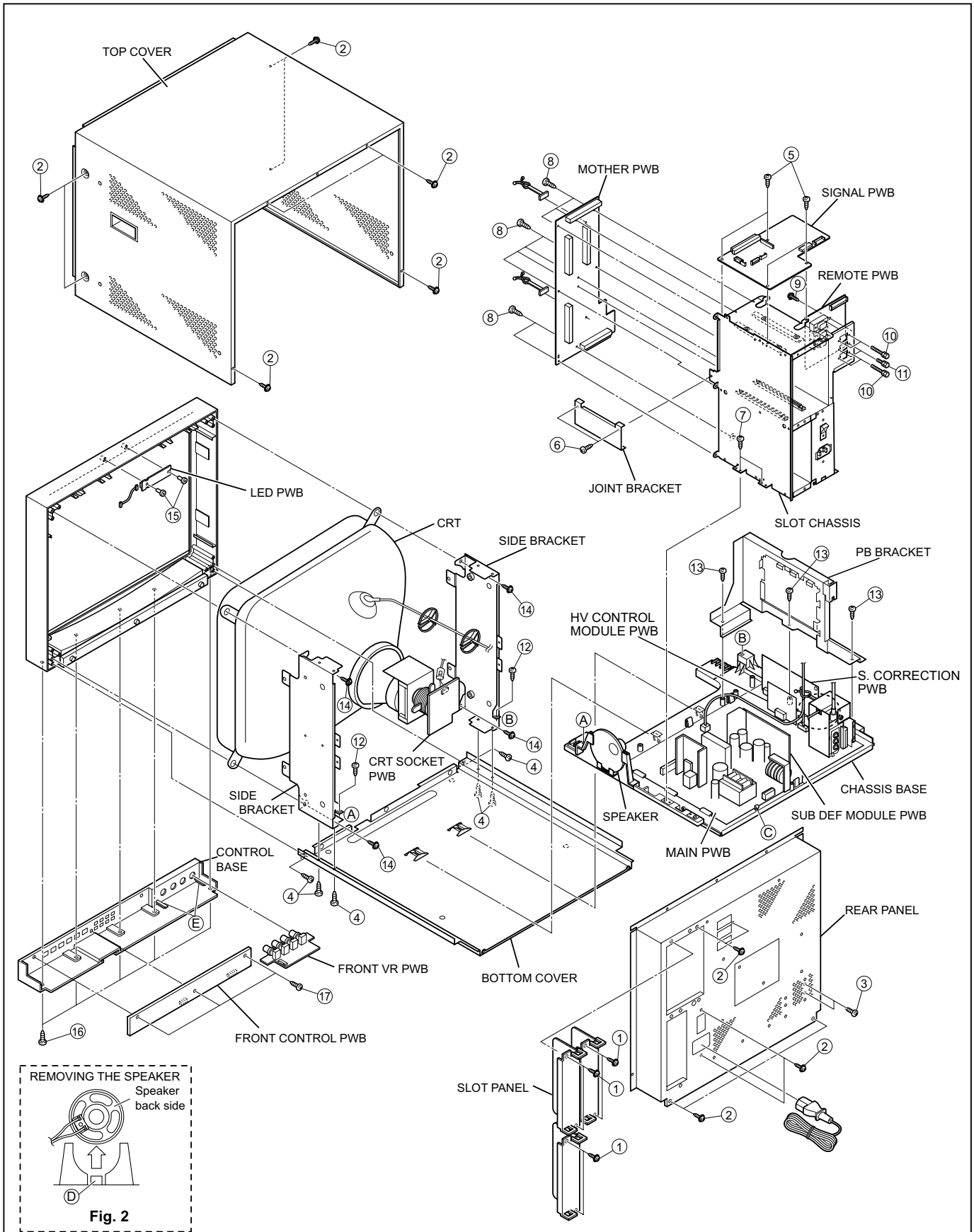

TOP COVER
MOTHER PWB
SIGNAL PWB
REMOTE PWB
JOINT BRACKET
SLOT CHASSIS
LED PWB
CRT
SIDE BRACKET
PB BRACKET
HV CONTROL MODULE PWB
S. CORRECTION PWB
CRT SOCKET PWB
SIDE BRACKET
CHASSIS BASE
SPEAKER
SUB DEF MODULE PWB
MAIN PWB
CONTROL BASE
REAR PANEL
FRONT VR PWB
BOTTOM COVER
FRONT CONTROL PWB
SLOT PANEL
REMOVING THE SPEAKER
Speaker back side
Fig. 2

Fig. 1

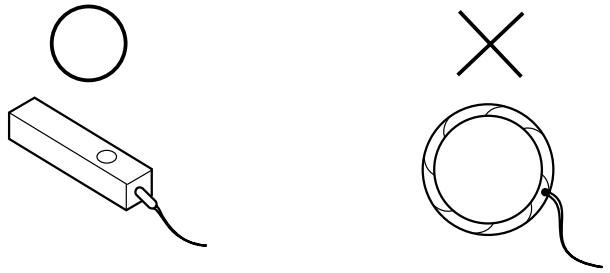
3.2 DEMAGNETIZATION PROCEDURE

3.2.1 CAUTION

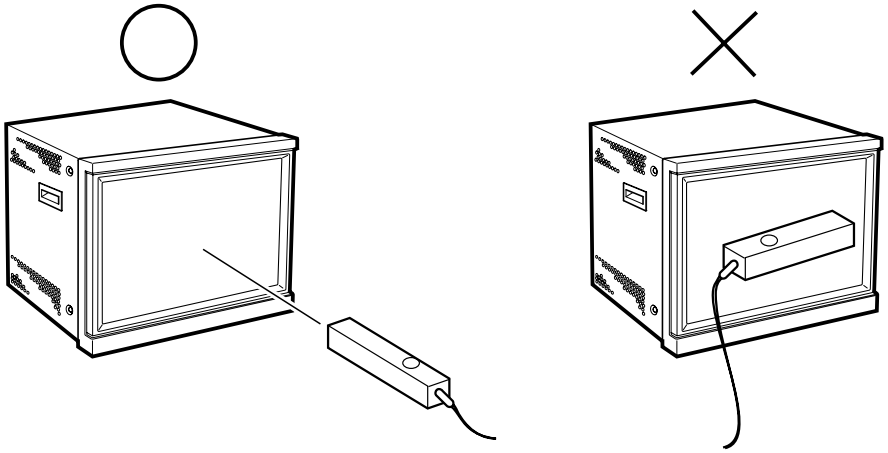
(1) Use a rod-type demagnetization coil.

NOTE:

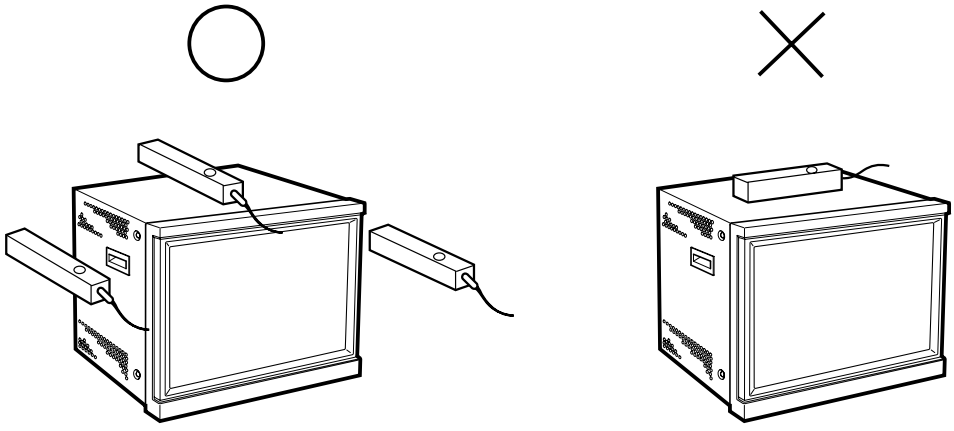
Never use a ring-shaped demagnetization coil.



(2) Keep the demagnetization coil at a distance of more than 1.5 cm from the CRT screen and the main unit during use.
(3) When demagnetizing the CRT screen, hold the demagnetization coil perpendicularly to the CRT screen.

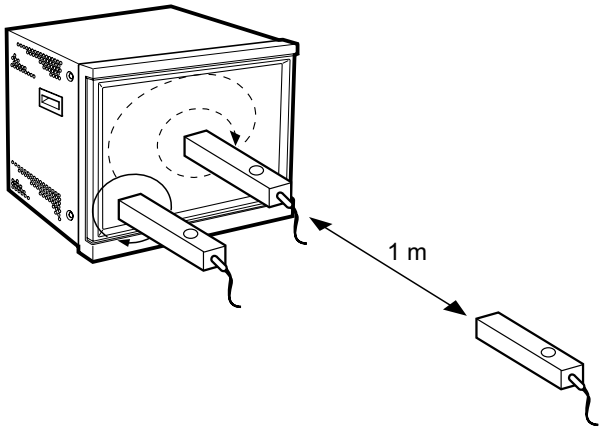


(4) When demagnetizing the outer cabinet of the unit, use the demagnetization coil in the orientation as shown below.



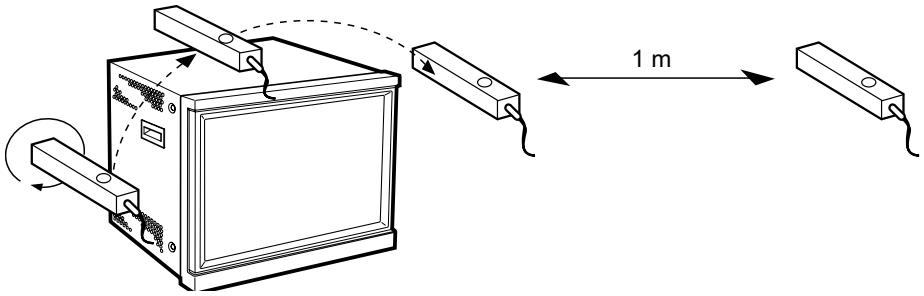
3.2.2 DEMAGNETIZING THE CRT SCREEN

(1) While holding the power button of the demagnetization coil, move it to approach the CRT screen area that has color irregularities. (Keep the demagnetization coil at a distance of more than 1.5 cm from the screen.)
(2) From the area with the colour irregularities, move the demagnetization coil as if drawing a spiral toward the center of the CRT screen.
(3) Move the demagnetization coil slowly away from the center of the CRT screen.
(4) When the demagnetization coil comes to about 1 meter from the CRT screen, release the demagnetization coil power button.
(5) If the color irregularities are still observed, repeat the above steps once more.



3.2.3 DEMAGNETIZING THE OUTER CABINET OF THE UNIT

(1) While holding the power button of the demagnetization coil, move it to approach the outer cabinet of the unit. (Keep the demagnetization coil at a distance of more than 1.5 cm from the cabinet.)
(2) Keep the demagnetization coil in the same orientation, and move it around the cabinet as if drawing a circle around the side and top panels of the unit.
(3) Move the demagnetization coil slowly away from the outer cabinet of the unit.
(4) When the demagnetization coil comes to about 1 meter from the unit, release the power button of the demagnetization coil.



3.3 MEMORY IC REPLACEMENT

3.3.1 MEMORY IC

The unit incorporates a nonvolatile Memory IC, which stores data on the video and deflection systems, etc.
When it is replaced with an IC without the data stored in it, the set may malfunction or the video may become abnormal when the unit is turned on.
When replacing the Memory IC, be sure to use an IC in which the data (initial values) has already been written.

3.3.2 MEMORY IC REPLACEMENT PRECDURE

1. Turn the unit off and unplug the power cord from the power outlet.
2. Replace the Memory IC with a new Memory IC storing the initial setting value data.
3. Plug the power cord into the power outlet and turn the unit on.
4. Check the SETUP MENU and set its items as required.
   (1) While holding down the ▼ key, press the **VOL -** (◄) key.
   (2) The SETUP MENU appears (Fig. 1).
   (3) Check the items in the SETUP MENU by comparing them with the data in the table on page 1-10.
   If any item is set differently, set it as required.
5. Check the MAIN MENU and set its items as required.
   Press the **[MENU]** key to display the MAIN MENU (Fig. 2). Check the items in the MAIN MENU by comparing them with the data in the table on page 1-11. If any item is set differently, set it as required.
6. Adjust the items that can be adjusted on the front panel. (Some items cannot be adjusted unless the required signal is input.)
7. Check that the initial values of the items in the SERVICE MENU (Fig. 3). If any item is set differently, set it as required.
   For the setting method and the initial values, see the corresponding pages for "**SERVICE ADJUSTMENTS**" in this manual.

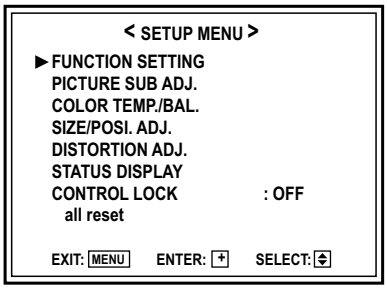


Fig. 1

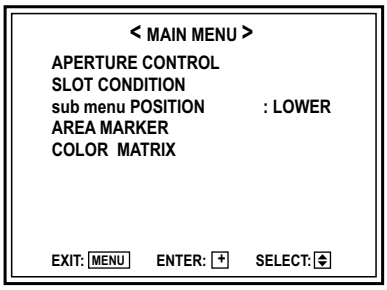


Fig. 2

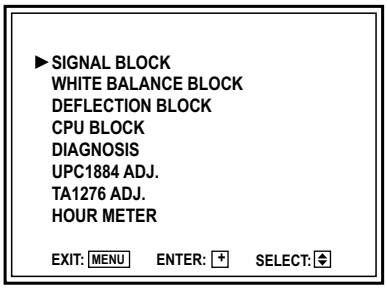


Fig. 3

3.3.3 FACTORY SETTING VALUE

■ INITIAL SETTING VALUE TABLE [SET-UP MENU]

Setting Item	Data / Variable range	Initial setting value	Remarks
FUNCTION SETTING			
COLOR SYSTEM	AUTO / NTSC / PAL	AUTO	Apply the NTSC/PAL signal
AUTO INPUT	ON/OFF	OFF	Apply the HD SDI/SDI signal
SYNC SELECT	INT. / EXT.	INT.	
RUSH DELAY TIME	STD. / SLOW	STD.	
TALLY SELECT	GREEN / RED	GREEN	
REMOTE SYSTEM	MAKE / TRIGGER	MAKE	
E.AUDIO GROUP	1G / 2G / 1-2G	1G	
HOUR METER X 100h	000 – 655	000	
PICTURE SUB ADJ.			
CONTRAST	-20 – +20	00	
BRIGHT	-20 – +20	00	
CHROMA	-20 – +20	00	
PHASE	-20 – +20	00	
NTSC SETUP	00 / 75	00	
COMPO. LEVEL	SMPTE / B00 / B75	SMPTE	Apply the Component signal
COLOR TEMP. / BAL.			
COLOR TEMP.	LOW / HIGH	LOW	
BLUE DRIVE	MIN – MAX (127 steps)	000	
RED DRIVE	MIN – MAX (127 steps)	000	
GREEN CUTOFF	MIN – MAX (205 steps)	000	
BLUE CUTOFF	MIN – MAX (205 steps)	000	
RED CUTOFF	MIN – MAX (205 steps)	000	
SIZE / POSI. ADJ.			
H.SIZE	-20 – +20	00	Reduced to 00 – +20 during the under-scan mode.
H.POSITION	-20 – +20	00	
V.SIZE	-20 – +20	00	
V.POSITION	-20 – +20	00	
ZOOM H. SIZE	-20 – 00	00	
ZOOM V. SIZE	-20 – +20	00	
DISTORTION ADJ.			
PINCUSHION	-20 – +20	00	
PIN.BALANCE	-20 – +20	00	
PARALLELOGRAM	-20 – +20	00	
TRAPEZOID	-20 – +20	00	
ROTATION	-31 – +31	00	
STATUS DISPLAY			
STATUS DISPLAY	ON / OFF	ON	
LEVEL METER ch	OFF/1:2/12:34/31:24/123:456/1-8	OFF	
BAR TYPE	3 COLORS / WHITE-1 / WHITE-2	3 COLORS	
REFERENCE LEVEL	-20dB / -18dB	-20dB	
OVER LEVEL	-8dB / -6dB / -4dB / -2dB	-8dB	
BAR BRIGHTNESS	HIGH / LOW	HIGH	
CONTROL LOCK	ON / OFF	OFF	

■ INITIAL SETTING VALUE TABLE [MAIN MENU]

Setting Item	Data / Variable range	Initial setting value
APERTURE CONTROL		
LEVEL	00 – 10	00
CONTROL FREQ.	HIGH / LOW / OFF	HIGH
SLOT CONDITION INPUT A – F	Type of boards installed in the rear panel slots. SLOT1 : INPUT A, B SLOT2 : INPUT C, D SLOT3 : INPUT E, F	
sub menu POSITION	LOWER / UPPER	LOWER
AREA MARKER		
MARKER SELECT	OFF / LINE /S. HALF / HALF+L / S. BLK / BLK. +L	OFF
ZOOM	OFF / ON	OFF
ASPECT SELECT	4 : 3 / 13 : 9 / 14 : 9	4 : 3
SAFEY AREA	OFF / 80% / 88% / 90%	OFF
R-MARKER SELECT	OFF / LINE / S. HALF / HALF+L / S. BLK / BLK. +L	OFF
R-ZOOM	OFF / ON	OFF
R-ASPECT SELECT	4 : 3 / 13 : 9 / 14 : 9	4 : 3
R-SAFETY AREA	OFF / 80% / 88% / 90%	0FF
COLOR MATRIX	SELECT : MANUAL / ITU601 or ITU709 [Example when MANUAL is set] R-Y PHASE : 90/92/94/112 R/B GAIN : 0.56/0.68/0.79/0.86 G-Y PHASE : 236/240/244/253 G/B GAIN : 0.30/0.34/0.40/0.45	NORMAL 90 0.86 244 0.30

■ INITIAL SETTING VALUE TABLE [FRONT PANEL CONTROL]

Setting Item	Data / Variable range	Initial setting value
POWER	ON / OFF	OFF
INPUT SELECT	INPUT A – F	INPUT A
COLOR OFF AREA MARKER PULSE CROSS ASPECT UNDER SCAN SCREENS CHECK DEGAUSS	ON / OFF	OFF
VOLUME	00 – 50	10
CONTRAST BRIGHT CHROMA PHASE	POTENTIOMETER	Center click position

3.4 REPLACEMENT OF CHIP COMPONENT

3.4.1 CAUTIONS

(1) Avoid heating for more than 3 seconds.
(2) Do not rub the electrodes and the resist parts of the pattern.
(3) When removing a chip part, melt the solder adequately.
(4) Do not reuse a chip part after removing it.

3.4.2 SOLDERING IRON

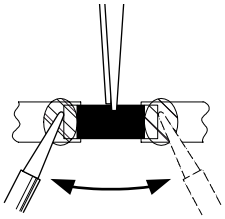
(1) Use a high insulation soldering iron with a thin pointed end of it.
(2) A 30w soldering iron is recommended for easily removing parts.

3.4.3 REPLACEMENT STEPS

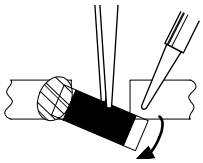
1. How to remove Chip parts

[Resistors, capacitors, etc.]

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

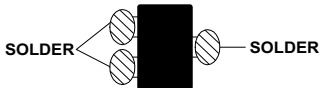


(2) Shift with tweezers and remove the chip part.

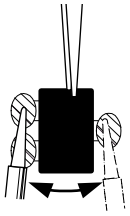


[Transistors, diodes, variable resistors, etc.]

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



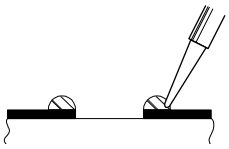
Note :

After removing the part, remove remaining solder from the pattern.

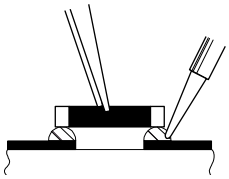
2. How to install Chip parts

[Resistors, capacitors, etc.]

(1) Apply solder to the pattern as indicated in the figure.

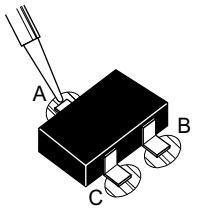


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

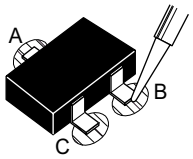


[Transistors, diodes, variable resistors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead A as indicated in the figure.



(4) Then solder leads **B** and **C**.



SECTION 4
ADJUSTMENT

4.1 ADJUSTMENT PRECUTION

(1) Make sure that connection is correctly mode AC to AC power souce.
(2) Warm run the unit and measuring tools sufficiently (at least 30 minutes).
(3) Perform all adjustments based on the initial values. There is no problem if the result of an adjustment performed by observing the screen is different from the initial value.
(4) Never attempt to turn on potentiometers or other controls that are not explicitly mentioned in the adjustment procedures.

NOTE:
When using the IF-C01PNG (NTSC/PAL Video Input Card) in an adjustment, be sure to check the output waveforms from the video input card in advance.

4.2 SETTINGS REQUIRED FOR ADJUSTMENTS

For the functions other than those that should be set before each adjustment, reset them to the initial values according to the table on page 1-10 before proceeding to the adjustment.
Correct adjustments will not be possible unless the values of the functions are reset to the initial values.

4.3 SETTING ITEMS

Begin adjustments with the primary items and then proceed to the secondary items, (1) to (3).

■ PRIMARY ADJUSTMENT ITEMS

- Screen voltage coarse adjustment
- High-voltage coarse adjustment
- X-ray protector adjustment/check
- High-voltage adjustment
- Focus adjustment
- Image rotation adjustment
- Convergence adjustment

■ SECONDARY ADJUSTMENT ITEMS (1)

- Contrast adjustments
- Chroma/Phase adjustments

■ SECONDARY ADJUSTMENT ITEMS (2)

- Deflection system adjustments
  (Overscan, underscan, aspect mode)

■ SECONDARY ADJUSTMENT ITEMS (3)

- White balance adjustments
- Brightness adjustments
  (Overscan, underscan, aspect mode)

4.4 MEASURING INSTRUMENTS AND FIXTURES

(1) DC voltmeter (or digital voltmeter)
(2) Oscilloscope
(3) Color analyzer (colour temperature meter)
(4) High-voltage voltmeter
(5) Signal generator (Should be compatible with the following signal specifications.)
(6) Scale (made of non-metallic material)
(7) IF-C01PNG (NTSC/PAL Video Input Card)
(8) IF-C01COMG (Component/RGB Input Card)

Fromats of Signal Used in Adjustments	Types of Signals Used in Adjustments
• DTV format component signals (480/60i, 480/60p, 576/50i, 576/50p, 720/50p, 720/60p, 1080/24psF, 1080/50i, 1080/60i) • NTSC signals (Composite, Y/C) • PAL signals (Composite, Y/C)	• Color bar signal • Size adjustment signal • All white signal • All black signal • Mono-scope signal • Gray scale signal • 10-step gray scale signal • Crosshatch signal • Crosshatch signal with circle pattern

4.5 FOCUS AND SCREEN ADJUSTMENT HOLES

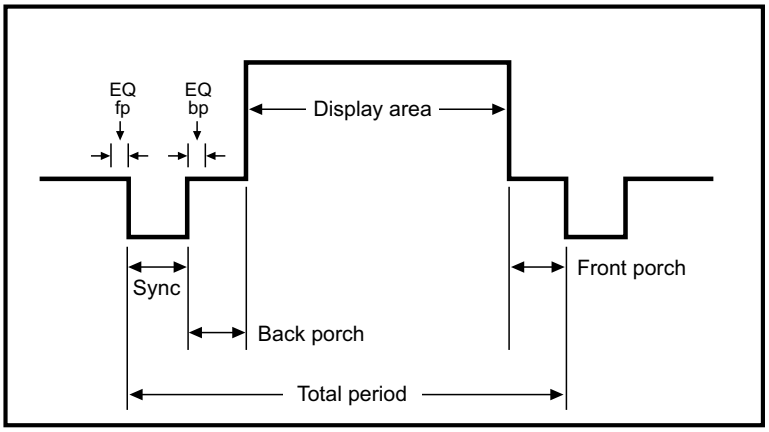
The rear panel has the adjustment holes for use in adjusting the focusing and screen.

CAUTION :

- Be sure to use screwdrivers made of non-metallic materials for the following adjustments. If a metallic screwdriver is used, short-circuiting may damage parts of the unit, including the high-voltage parts.

4.6 TIMING CHART OF SIGNALS REQUIRED FOR ADJUSTMENTS

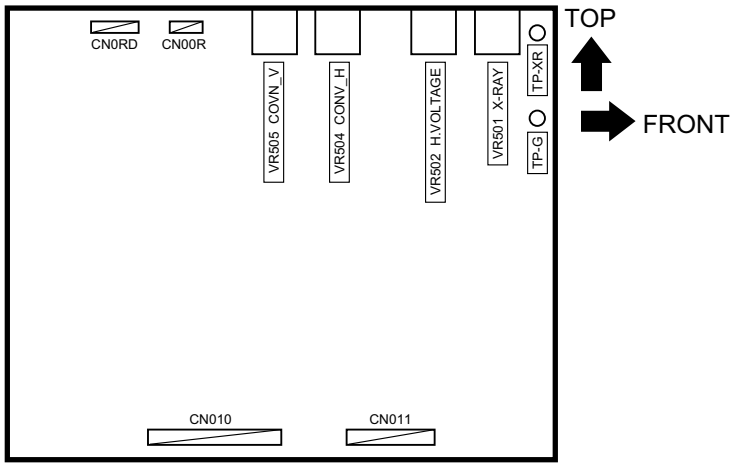
Generate the signals required for adjustments with a programmable signal generator by referring to the following figure.



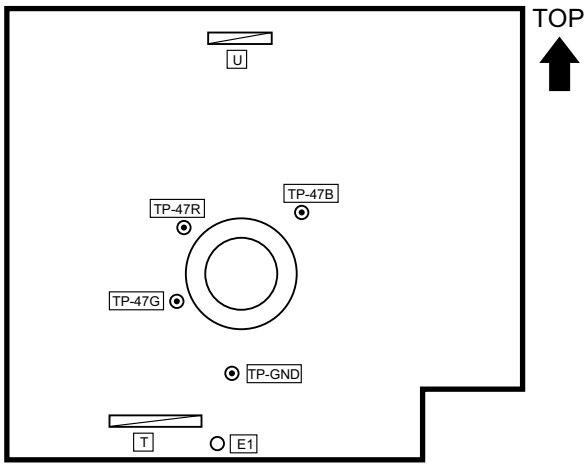
Signal	NTSC(14.3)	PAL	480/60i	576/50i	480/60p	576/50p	720/50p	720/60p	1080/24psF	1080/50i	1080/60i
Resolution(Horizontal)	768	624	720	720	720	720	1280	1280	1920	1920	1920
Resolution(Vertical)	243	287	244	287	483	576	720	720	540	540	540
Horizontal frequency(kHz)	15.73	15.625	15.73	15.625	31.469	31.25	37.50	44.955	27	28.125	33.75
Vertical frequency(Hz)	29.97i	25i	30i	25i	60p	50p	50p	60p	24psF(48i)	50i	30i
CS & V		RGB	RGB	RGB	RGB	RGB	RGB	RGB	RGB	RGB	RGB
CS	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
HS	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
VS	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Dot clock(MHz)	14.318	12	13.5	13.5	27	12	74.25	74.25	74.25	74.25	74.25
H period	910	768	858	864	858	864	1980	1650	2750	2640	2200
H sync	68	56	63	63	63	63	40	40	44/44	44/44	44/44
H back p.	58	70	59	68	59	69	260	260	144/188	144/188	144/188
H disp	768	624	720	720	720	720	1280	1280	1920	1920	1920
V period	263	312	263	312	525	625	750	750	562	562	562
V sync	3	3	3	3	6	5	5	5	5	5	5
V back p.	14	19	13	19	30	39	25	20	15	15	15
V disp	243	287	243	287	483	576	750	720	540	540	540
Equivalent pulse(fp/bp)	3H/3H	3H/3H	3H/3H	3H/3H	0H/0H	0H/0H	0H/0H	0H/0H	0H/0H	0H/0H	0H/0H

4.7 ADJUSTMENT LOCATIONS

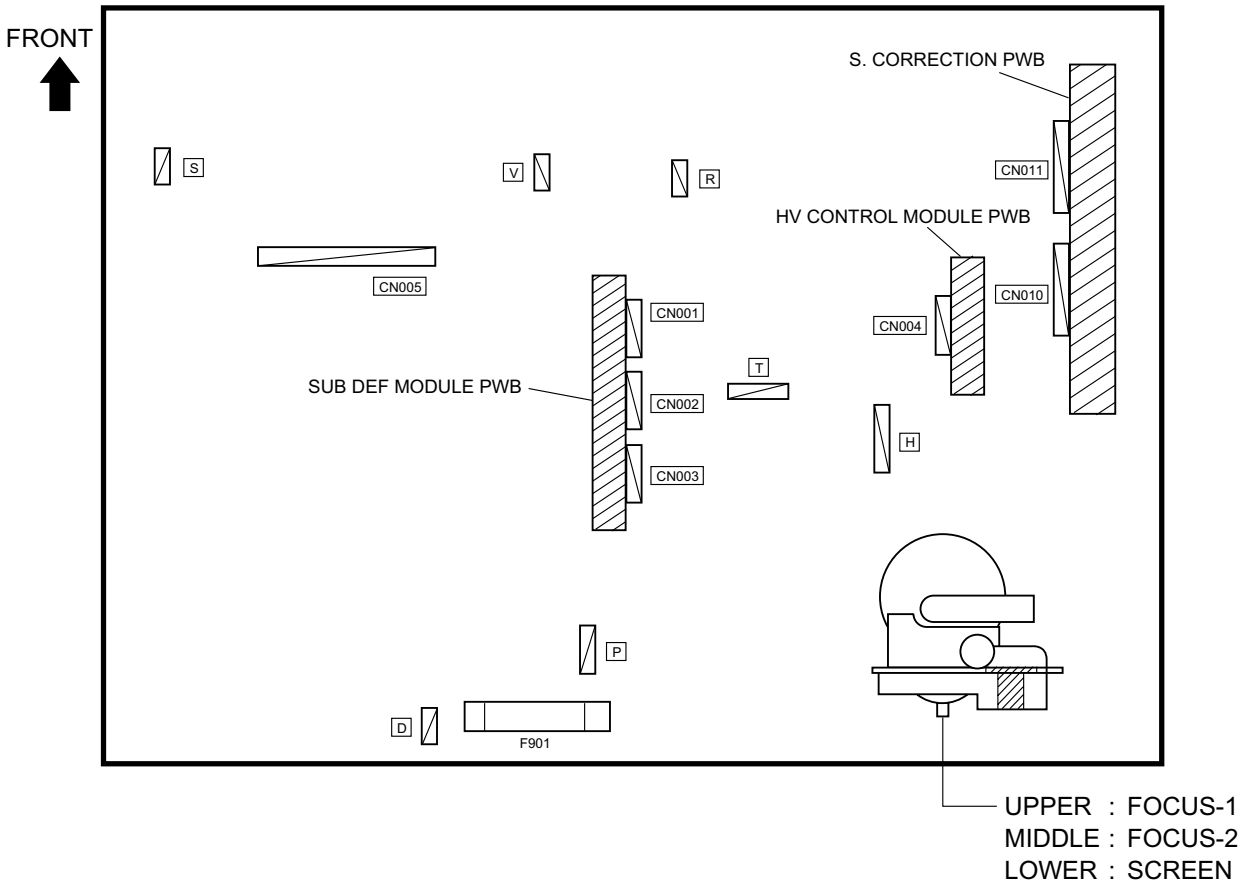
S. CORRECTION PWB (SOLDER SIDE)



CRT SOCKET PWB (SOLDER SIDE)



MAIN PWB



4.8 BASIC OPERATIONS OF SERVICE MENU

4.8.1 SERVICE MENU ITEMS

The service menu is roughly classified according to setup and adjustments, and is divided into the following items. Do not alter the values of unnecessary items.

SIGNAL BLOCK	Adjustments of the contrast, brightness, chroma and phase.
WHITE BALANCE BLOCK	Adjustments of the white balance.
DEFLECTION BLOCK	Adjustments of the deflection circuitry.
CPU BLOCK	Setting of the entire system by means of the control values of the microcomputer. (This block is usually not adjusted in servicing. Do not touch it except for adjustment items CC41 and CE05 to CE24.)
DIAGNOSIS	Display of the results of self diagnosis.
UPC1884 ADJ.	Display of the status of UPC1884 which is the DEF processor IC. (Do not adjust this item because it is not required for servicing.)
TA1276 ADJ.	Display of the status of TA1276 which is the RGB processor IC. (Do not adjust this item because it is not required for servicing.)
HOUR METER	Display of the hour meter count.
UPDATE CPU PROGRAM	Display of the software version.
E2PROM VERSION	Display of the E2PROM version. (Do not adjust this item because it is not required for servicing.)
FPGA VERSION	Display of the HDSDI FPGA version. (Do not adjust this item because it is not required for servicing.)
INITIALIZE EEPROM	Initialization of the user-setting menu. (Do not adjust this item because it is not required for servicing.)

4.8.2 BASIC OPERATIONS IN THE SERVICE MENU

1. Entering the Service Menu

Use the front panel keys to display the Service Menu (Fig. 1).

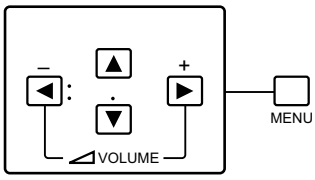


Fig. 1 FRONT PANEL KEYS

(1) While holding the ▼ key, press the **[MENU]** key.
The "⚠" mark appears at the center of the screen (Fig. 2).

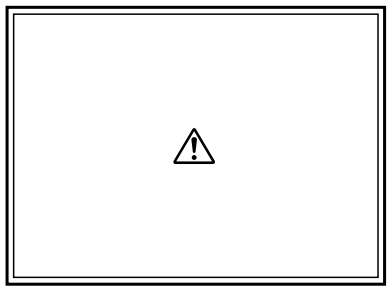


Fig. 2 WRNING MARK

(2) Before the "⚠" mark disappears (within 5 seconds after it appears), hold the ▼ key and press the **VOL-** (◀) key.

Warning message "**Please don't touch!**" appears on the screen (Fig. 3).

Fig. 3 WARNING MESSAGE DISPLAY

(3) Before the warning message disappears (within 5 seconds after it appears), press the **VOL+** (▶) key.

The service menu items appears on the display (Fig. 4).

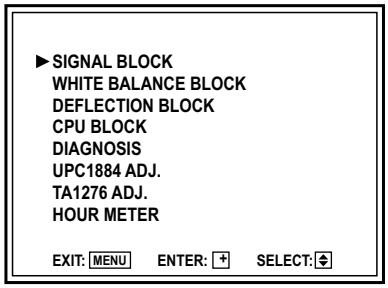
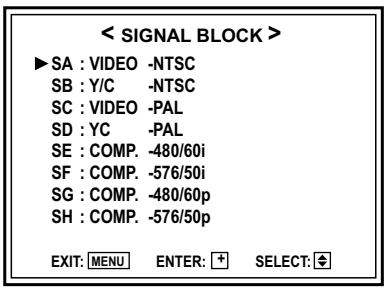


Fig. 4 SERVICE MENU

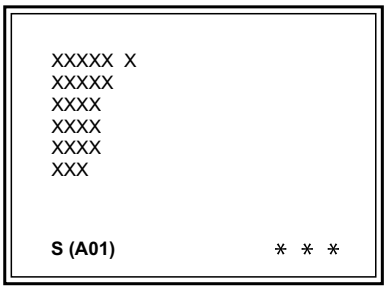
2. Setting the Service Menu items

(1) With the Service Menu displayed, press the ▼ key to select the item to be adjusted, then press the **VOL+** (▶) key to enter the submenu for the item.



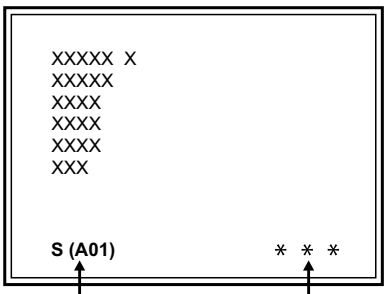
SUBMENU

(2) Press the ▼ key to select the item to be adjusted, then press the **VOL+** (▶) key to enter the item.



ADJUSTMENT ITEM DISPLAY

(3) Set the adjustment item by varying it with the **VOL-** (◀) and **VOL+** (▶) keys.



ADJUSTMENT ITEM **ADJUSTMENT VALUE**

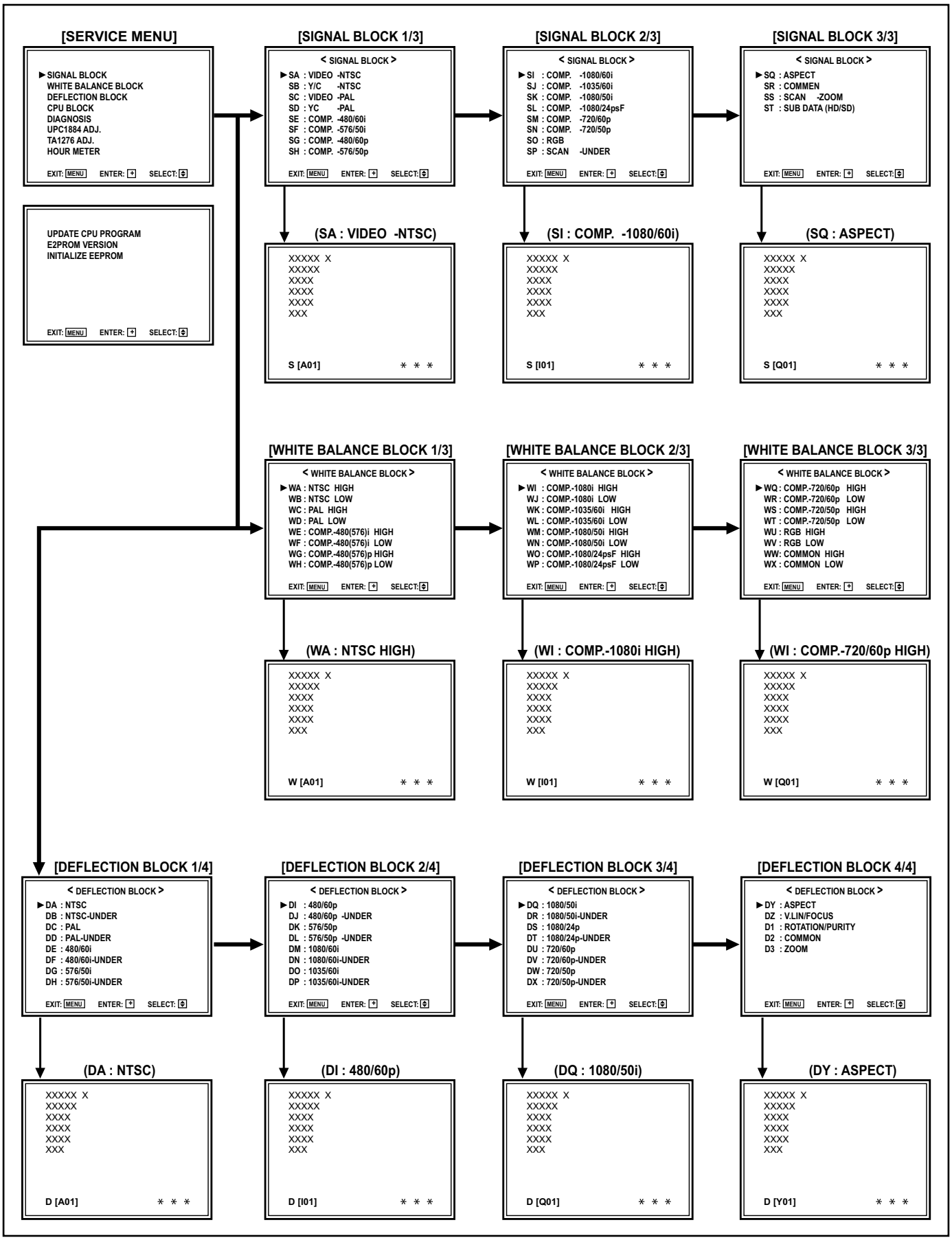
3. Exiting from the Service Menu

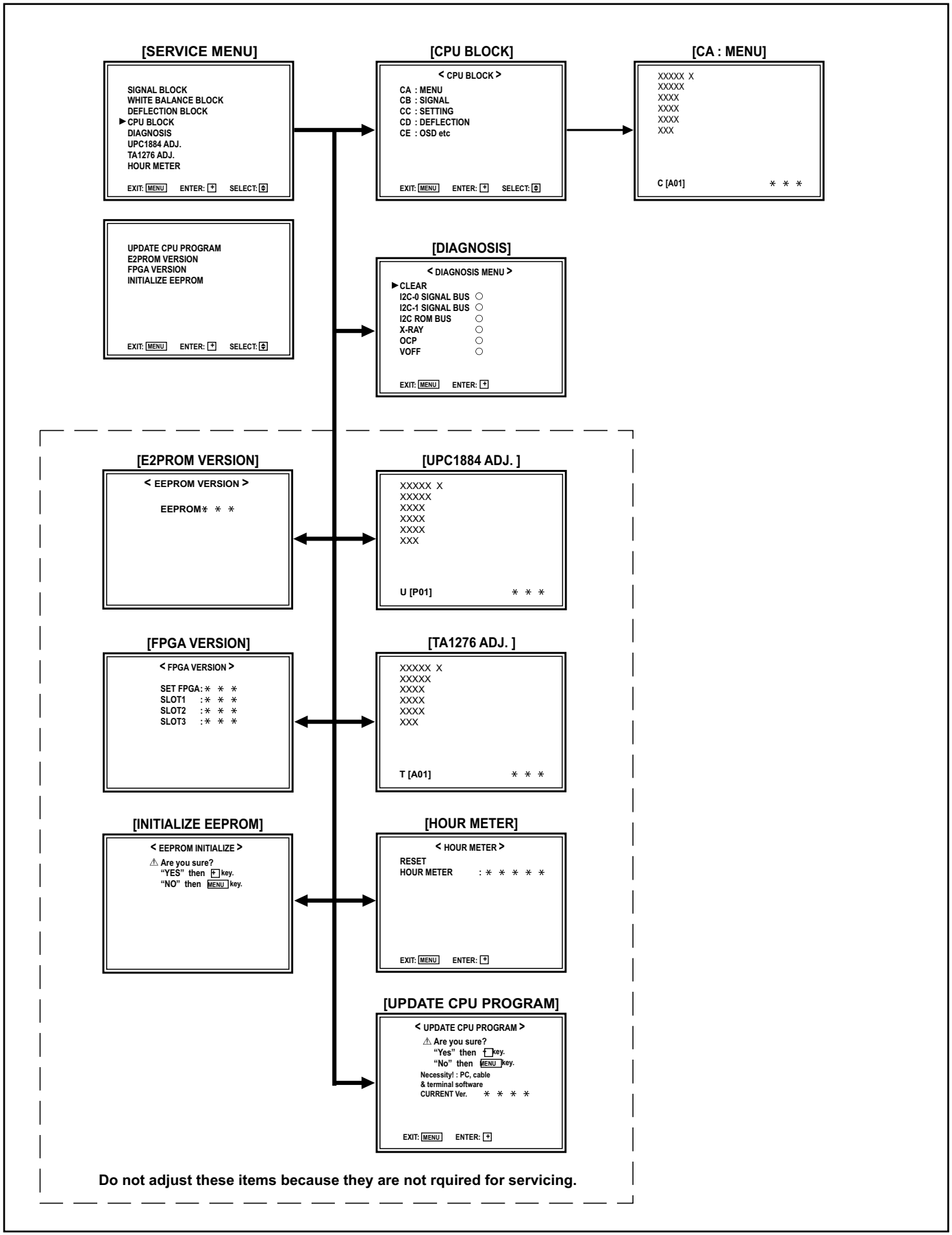
(1) After completing the adjustment of an item, press the **[MENU]** key to return to the submenu.

(2) Press the **[MENU]** key again to return to the Service Menu.

(3) Press the **[MENU]** key again to return to the normal screen.

4.8.3 SERVICE MENU FLOW CHART




[SERVICE MENU]
SIGNAL BLOCK
WHITE BALANCE BLOCK
DEFLECTION BLOCK
▶CPU BLOCK
DIAGNOSIS
UPC1884 ADJ.
TA1276 ADJ.
HOUR METER
EXIT: MENU ENTER: + SELECT: ↕
[CPU BLOCK]
< CPU BLOCK >
CA : MENU
CB : SIGNAL
CC : SETTING
CD : DEFLECTION
CE : OSD etc
EXIT: MENU ENTER: + SELECT: ↕
[CA : MENU]
XXXXX X
XXXXX
XXXX
XXXX
XXXX
XXX
C [A01] * * *
UPDATE CPU PROGRAM
E2PROM VERSION
FPGA VERSION
INITIALIZE EEPROM
EXIT: MENU ENTER: + SELECT: ↕
[DIAGNOSIS]
< DIAGNOSIS MENU >
▶CLEAR
I2C-0 SIGNAL BUS ○
I2C-1 SIGNAL BUS ○
I2C ROM BUS ○
X-RAY ○
OCP ○
VOFF ○
EXIT: MENU ENTER: +
[E2PROM VERSION]
< EEPROM VERSION >
EEPROM * * *
[UPC1884 ADJ.]
XXXXX X
XXXXX
XXXX
XXXX
XXXX
XXX
U [P01] * * *
[FPGA VERSION]
< FPGA VERSION >
SET FPGA: * * *
SLOT1 : * * *
SLOT2 : * * *
SLOT3 : * * *
[TA1276 ADJ.]
XXXXX X
XXXXX
XXXX
XXXX
XXXX
XXX
T [A01] * * *
[INITIALIZE EEPROM]
< EEPROM INITIALIZE >
⚠ Are you sure?
"YES" then + key.
"NO" then MENU key.
[HOUR METER]
< HOUR METER >
RESET
HOUR METER : * * * * *
EXIT: MENU ENTER: +
[UPDATE CPU PROGRAM]
< UPDATE CPU PROGRAM >
⚠ Are you sure?
"Yes" then + key.
"No" then MENU key.
Necessity! : PC, cable
& terminal software
CURRENT Ver. * * * *
EXIT: MENU ENTER: +
Do not adjust these items because they are not rquired for servicing.

4.9 INITIAL SETTING VALUE OF SERVICE MENU

Note that the following values other than the fixed values should simply be used as references during adjustments. Their correct values may be variable depending on individual units.

[SIGNAL BLOCK]

No.	Setting item	Variable range	Initial setting value
SA [VIDEO NTSC]			
S[A01]	CONTRAST	-064 ~ +063	+018
S[A02]	BRIGHT HIGH	-128 ~ +127	000
S[A03]	CHROMA	-064 ~ +063	000
S[A04]	PHASE	-064 ~ +063	000
S[A05]	APERTURE	-064 ~ +063	000
S[A06]	BRIGHT LOW	-128 ~ +127	000
S[A07]	Y DL	000/001	000 (Fixed value)
S[A08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[A09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[A10]	G-Y PHASE	000 ~ 003	001 (Fixed value)
S[A11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SB [Y/C NTSC]			
S[B01]	CONTRAST	-064 ~ +063	+018
S[B02]	BRIGHT HIGH	-128 ~ +127	000
S[B03]	CHROMA	-064 ~ +063	000
S[B04]	PHASE	-064 ~ +063	000
S[B05]	APERTURE	-064 ~ +063	000
S[B06]	BRIGHT LOW	-128 ~ +127	000
S[B07]	Y DL	000/001	000 (Fixed value)
S[B08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[B09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[B10]	G-Y PHASE	000 ~ 003	001 (Fixed value)
S[B11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SC [VIDEO PAL]			
S[C01]	CONTRAST	-064 ~ +063	+018
S[C02]	BRIGHT HIGH	-128 ~ +127	000
S[C03]	CHROMA	-064 ~ +063	000
S[C04]	PHASE	-064 ~ +063	000
S[C05]	APERTURE	-064 ~ +063	000
S[C06]	BRIGHT LOW	-128 ~ +127	000
S[C07]	Y DL	000/001	000 (Fixed value)
S[C08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[C09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[C10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[C11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SD [YC PAL]			
S[D01]	CONTRAST	-064 ~ +063	+018
S[D02]	BRIGHT HIGH	-128 ~ +127	000
S[D03]	CHROMA	-064 ~ +063	000

No.	Setting item	Variable range	Initial setting value
S[D04]	PHASE	-064 ~ +063	000
S[D05]	APERTURE	-064 ~ +063	000
S[D06]	BRIGHT LOW	-128 ~ +127	000
S[D07]	Y DL	000/001	000 (Fixed value)
S[D08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[D09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[D10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[D11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SE [COMP. 480/60i]			
S[E01]	CONTRAST	-064 ~ +063	+018
S[E02]	BRIGHT HIGH	-128 ~ +127	000
S[E03]	CHROMA	-064 ~ +063	000
S[E04]	PHASE	-064 ~ +063	000
S[E05]	APERTURE	-064 ~ +063	000
S[E06]	BRIGHT LOW	-128 ~ +127	000
S[E07]	Y DL	000/001	000 (Fixed value)
S[E08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[E09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[E10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[E11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SF [COMP. 576/50i]			
S[F01]	CONTRAST	-064 ~ +063	+018
S[F02]	BRIGHT HIGH	-128 ~ +127	000
S[F03]	CHROMA	-064 ~ +063	000
S[F04]	PHASE	-064 ~ +063	000
S[F05]	APERTURE	-064 ~ +063	000
S[F06]	BRIGHT LOW	-128 ~ +127	000
S[F07]	Y DL	000/001	000 (Fixed value)
S[F08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[F09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[F10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[F11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SG [COMP. 480/60p]			
S[G01]	CONTRAST	-064 ~ +063	+018
S[G02]	BRIGHT HIGH	-128 ~ +127	000
S[G03]	CHROMA	-064 ~ +063	000
S[G04]	PHASE	-064 ~ +063	000
S[G05]	APERTURE	-064 ~ +063	000
S[G06]	BRIGHT LOW	-128 ~ +127	000
S[G07]	Y DL	000/001	000 (Fixed value)
S[G08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[G09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[G10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[G11]	G/B GAIN	000 ~ 003	003 (Fixed value)

No.	Setting item	Variable range	Initial setting value
SH [COMP. 576/50p]			
S[H01]	CONTRAST	-064 ~ +063	+018
S[H02]	BRIGHT HIGH	-128 ~ +127	000
S[H03]	CHROMA	-064 ~ +063	000
S[H04]	PHASE	-064 ~ +063	000
S[H05]	APERTURE	-064 ~ +063	000
S[H06]	BRIGHT LOW	-128 ~ +127	000
S[H07]	Y DL	000/001	000 (Fixed value)
S[H08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[H09]	R/B GAIN	000 ~ 003	002 (Fixed value)
S[H10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[H11]	G/B GAIN	000 ~ 003	003 (Fixed value)
SI [COMP. 1080/60i]			
S[I01]	CONTRAST	-064 ~ +063	000
S[I02]	BRIGHT HIGH	-128 ~ +127	000
S[I03]	CHROMA	-064 ~ +063	000
S[I04]	PHASE	-064 ~ +063	000
S[I05]	APERTURE	-064 ~ +063	000
S[I06]	BRIGHT LOW	-128 ~ +127	000
S[I07]	Y DL	000/001	000 (Fixed value)
S[I08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[I09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[I10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[I11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SJ [COMP. 1035/60i]			
S[J01]	CONTRAST	-064 ~ +063	000
S[J02]	BRIGHT HIGH	-128 ~ +127	000
S[J03]	CHROMA	-064 ~ +063	000
S[J04]	PHASE	-064 ~ +063	000
S[J05]	APERTURE	-064 ~ +063	000
S[J06]	BRIGHT LOW	-128 ~ +127	000
S[J07]	Y DL	000/001	000 (Fixed value)
S[J08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[J09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[J10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[J11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SK [COMP. 1080/50i]			
S[K01]	CONTRAST	-064 ~ +063	+006
S[K02]	BRIGHT HIGH	-128 ~ +127	000
S[K03]	CHROMA	-064 ~ +063	000
S[K04]	PHASE	-064 ~ +063	000
S[K05]	APERTURE	-064 ~ +063	000
S[K06]	BRIGHT LOW	-128 ~ +127	000

No.	Setting item	Variable range	Initial setting value
S[K07]	Y DL	000/001	000 (Fixed value)
S[K08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[K09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[K10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[K11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SL [COMP. 1080/24psF]			
S[L01]	CONTRAST	-064 ~ +063	+009
S[L02]	BRIGHT HIGH	-128 ~ +127	000
S[L03]	CHROMA	-064 ~ +063	000
S[L04]	PHASE	-064 ~ +063	000
S[L05]	APERTURE	-064 ~ +063	000
S[L06]	BRIGHT LOW	-128 ~ +127	000
S[L07]	Y DL	000/001	000 (Fixed value)
S[L08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[L09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[L10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[L11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SM [COMP. 720/60p]			
S[M01]	CONTRAST	-064 ~ +063	+002
S[M02]	BRIGHT HIGH	-128 ~ +127	000
S[M03]	CHROMA	-064 ~ +063	000
S[M04]	PHASE	-064 ~ +063	000
S[M05]	APERTURE	-064 ~ +063	000
S[M06]	BRIGHT LOW	-128 ~ +127	000
S[M07]	Y DL	000/001	000 (Fixed value)
S[M08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[M09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[M10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[M11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SN [COMP. 720/50p]			
S[N01]	CONTRAST	-064 ~ +063	000
S[N02]	BRIGHT HIGH	-128 ~ +127	000
S[N03]	CHROMA	-064 ~ +063	000
S[N04]	PHASE	-064 ~ +063	000
S[N05]	APERTURE	-064 ~ +063	000
S[N06]	BRIGHT LOW	-128 ~ +127	000
S[N07]	Y DL	000/001	000 (Fixed value)
S[N08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[N09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[N10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[N11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SO [RGB]			
S[O01]	CONTRAST	-064 ~ +063	+002

No.	Setting item	Variable range	Initial setting value
S[O02]	BRIGHT HIGH	-128 ~ +127	-070
S[O03]	BRIGHT LOW	-128 ~ +127	-070
SP [SCAN UNDER]			
S[P01]	NTSC-COMPOS. CONTRAST	-064 ~ +063	-007
S[P02]	NTSC-COMPOS. BRIGHT HIGH	-128 ~ +127	000
S[P03]	NTSC-COMPOS. BRIGHT LOW	-128 ~ +127	000
S[P04]	NTSC-Y/C CONTRAST	-064 ~ +063	-007
S[P05]	NTSC-Y/C BRIGHT HIGH	-128 ~ +127	000
S[P06]	NTSC-Y/C BRIGHT LOW	-128 ~ +127	000
S[P07]	PAL-COMPOS. CONTRAST	-064 ~ +063	-007
S[P08]	PAL-COMPOS. BRIGHT HIGH	-128 ~ +127	000
S[P09]	PAL-COMPOS. BRIGHT LOW	-128 ~ +127	000
S[P10]	PAL-Y/C CONTRAST	-064 ~ +063	-007
S[P11]	PAL-Y/C BRIGHT HIGH	-128 ~ +127	000
S[P12]	PAL-Y/C BRIGHT LOW	-128 ~ +127	000
S[P13]	480i CONTRAST	-064 ~ +063	-007
S[P14]	480i BRIGHT HIGH	-128 ~ +127	000
S[P15]	480i BRIGHT LOW	-128 ~ +127	000
S[P16]	576i CONTRAST	-064 ~ +063	-007
S[P17]	576i BRIGHT HIGH	-128 ~ +127	000
S[P18]	576i BRIGHT LOW	-128 ~ +127	000
S[P19]	480p CONTRAST	-064 ~ +063	-007
S[P20]	480p BRIGHT HIGH	-128 ~ +127	000
S[P21]	480p BRIGHT LOW	-128 ~ +127	000
S[P22]	576p CONTRAST	-064 ~ +063	-007
S[P23]	576p BRIGHT HIGH	-128 ~ +127	000
S[P24]	576p BRIGHT LOW	-128 ~ +127	000
S[P25]	1080/60i CONTRAST	-064 ~ +063	-007
S[P26]	1080/60i BRIGHT HIGH	-128 ~ +127	000
S[P27]	1080/60i BRIGHT LOW	-128 ~ +127	000
S[P28]	1035/60i CONTRAST	-064 ~ +063	-007
S[P29]	1035/60i BRIGHT HIGH	-128 ~ +127	000
S[P30]	1035/60i BRIGHT LOW	-128 ~ +127	000
S[P31]	1080/50i CONTRAST	-064 ~ +063	-007
S[P32]	1080/50i BRIGHT HIGH	-128 ~ +127	000
S[P33]	1080/50i BRIGHT LOW	-128 ~ +127	000
S[P34]	1080/24psF CONTRAST	-064 ~ +063	-007
S[P35]	1080/24psF BRIGHT HIGH	-128 ~ +127	000
S[P36]	1080/24psF BRIGHT LOW	-128 ~ +127	000
S[P37]	720/60p CONTRAST	-064 ~ +063	-007
S[P38]	720/60p BRIGHT HIGH	-128 ~ +127	000
S[P39]	720/60p BRIGHT LOW	-128 ~ +127	000
S[P40]	720/50p CONTRAST	-064 ~ +063	-007

No.	Setting item	Variable range	Initial setting value
S[P41]	720/50p BRIGHT HIGH	-128 ~ +127	000
S[P42]	720/50p BRIGHT LOW	-128 ~ +127	000
SQ [ASPECT]			
S[Q01]	NTSC-COMPOS. OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q02]	NTSC-COMPOS. OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q03]	NTSC-COMPOS. OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q04]	NTSC-COMPOS. UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q05]	NTSC-COMPOS. UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q06]	NTSC-COMPOS. UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q07]	NTSC-Y/C OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q08]	NTSC-Y/C OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q09]	NTSC-Y/C OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q10]	NTSC-Y/C UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q11]	NTSC-Y/C UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q12]	NTSC-Y/C UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q13]	PAL-COMPOS. OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q14]	PAL-COMPOS. OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q15]	PAL-COMPOS. OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q16]	PAL-COMPOS. UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q17]	PAL-COMPOS. UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q18]	PAL-COMPOS. UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q19]	PAL-Y/C OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q20]	PAL-Y/C OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q21]	PAL-Y/C OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q22]	PAL-Y/C UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q23]	PAL-Y/C UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q24]	PAL-Y/C UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q25]	480i OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q26]	480i OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q27]	480i OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q28]	480i UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q29]	480i UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q30]	480i UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q31]	576i OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q32]	576i OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q33]	576i OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q34]	576i UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q35]	576i UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q36]	576i UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q37]	480p OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q38]	480p OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q39]	480p OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q40]	480p UNDERSCAN CONTRAST	-064 ~ +063	-011

No.	Setting item	Variable range	Initial setting value
S[Q41]	480p UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q42]	480p UNDERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q43]	576p OVERSCAN CONTRAST	-064 ~ +063	-011
S[Q44]	576p OVERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q45]	576p OVERSCAN BRIGHT LOW	-128 ~ +127	000
S[Q46]	576p UNDERSCAN CONTRAST	-064 ~ +063	-011
S[Q47]	576p UNDERSCAN BRIGHT HIGH	-128 ~ +127	000
S[Q48]	576p UNDERSCAN BRIGHT LOW	-128 ~ +127	000
SR [COMMON] **NOTE :** When the value of item SR is changed, items SA to ST should be re-adjusted.			
S[R01]	CONTRAST	000 ~ 127	066
S[R02]	BRIGHT HIGH	000 ~ 255	140
S[R03]	CHROMA	000 ~ 127	064
S[R04]	PHASE	000 ~ 127	064
S[R05]	APERTURE	000 ~ 127	025
S[R06]	BRIGHT LOW	-128 ~ +127	000
S[R07]	Y DL	000/001	000 (Fixed value)
S[R08]	R-Y PHASE	000 ~ 003	000 (Fixed value)
S[R09]	R/B GAIN	000 ~ 003	003 (Fixed value)
S[R10]	G-Y PHASE	000 ~ 003	002 (Fixed value)
S[R11]	G/B GAIN	000 ~ 003	000 (Fixed value)
SS [SCAN ZOOM]			
S[S01]	NTSC-COMPOS. ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S02]	NTSC-COMPOS. ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S03]	NTSC-COMPOS. ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S04]	NTSC-Y/C ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S05]	NTSC-Y/C ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S06]	NTSC-Y/C ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S07]	PAL-COMPOS. ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S08]	PAL-COMPOS. ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S09]	PAL-COMPOS. ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S10]	PAL-Y/C ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S11]	PAL-Y/C ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S12]	PAL-Y/C ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S13]	480i ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S14]	480i ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S15]	480i ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S16]	576i ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S17]	576i ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S18]	576i ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S19]	480p ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S20]	480p ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S21]	480p ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S22]	576p ZOOMSCAN CONTRAST	-064 ~ +063	+009

No.	Setting item	Variable range	Initial setting value
S[S23]	576p ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S24]	576p ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S25]	1080/60i ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S26]	1080/60i ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S27]	1080/60i ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S28]	1035/60i ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S29]	1035/60i ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S30]	1035/60i ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S31]	1080/50i ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S32]	1080/50i ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S33]	1080/50i ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S34]	1080/24psF ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S35]	1080/24psF ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S36]	1080/24psF ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S37]	720/60p ZOOMSCAN CONTRAST	-064 ~ +063	+007
S[S38]	720/60p ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S39]	720/60p ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
S[S40]	720/50p ZOOMSCAN CONTRAST	-064 ~ +063	+009
S[S41]	720/50p ZOOMSCAN BRIGHT HIGH	-128 ~ +127	000
S[S42]	720/50p ZOOMSCAN BRIGHT LOW	-128 ~ +127	000
ST [HD/SD MODE]			
S[T01]	NTSC-COMPOS. HD/SD CONTRAST	-064 ~ +063	000
S[T02]	NTSC-COMPOS. HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T03]	NTSC-COMPOS. HD/SD BRIGHT LOW	-128 ~ +127	000
S[T04]	NTSC-Y/C HD/SD CONTRAST	-064 ~ +063	000
S[T05]	NTSC-Y/C HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T06]	NTSC-Y/C HD/SD BRIGHT LOW	-128 ~ +127	000
S[T07]	PAL-COMPOS. HD/SD CONTRAST	-064 ~ +063	000
S[T08]	PAL-COMPOS. HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T09]	PAL-COMPOS. HD/SD BRIGHT LOW	-128 ~ +127	000
S[T10]	PAL-Y/C HD/SD CONTRAST	-064 ~ +063	000
S[T11]	PAL-Y/C HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T12]	PAL-Y/C HD/SD BRIGHT LOW	-128 ~ +127	000
S[T13]	480i HD/SD CONTRAST	-064 ~ +063	000
S[T14]	480i HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T15]	480i HD/SD BRIGHT LOW	-128 ~ +127	000
S[T16]	576i HD/SD CONTRAST	-064 ~ +063	000
S[T17]	576i HD/SD BRIGHT HIGH	-128 ~ +127	000
S[T18]	576i HD/SD BRIGHT LOW	-128 ~ +127	000

[WHITE BALANCE BLOCK]

No.	Setting item	Variable range	Initial setting value
WA [NTSC(COMPOS.,Y/C) HIGH]			
W[A01]	DRIVE (R)	-128 ~ +127	000
W[A02]	DRIVE (G)	–	000
W[A03]	DRIVE (B)	-128 ~ +127	000
W[A04]	CUTOFF (R)	-128 ~ +127	000
W[A05]	CUTOFF (G)	-128 ~ +127	000
W[A06]	CUTOFF (B)	-128 ~ +127	000
WB [NTSC(COMPOS.,Y/C) LOW]			
W[B01]	DRIVE (R)	-128 ~ +127	000
W[B02]	DRIVE (G)	–	000
W[B03]	DRIVE (B)	-128 ~ +127	000
W[B04]	CUTOFF (R)	-128 ~ +127	000
W[B05]	CUTOFF (G)	-128 ~ +127	000
W[B06]	CUTOFF (B)	-128 ~ +127	000
WC [PAL(COMPOS.,Y/C) HIGH]			
W[C01]	DRIVE (R)	-128 ~ +127	000
W[C02]	DRIVE (G)	–	000
W[C03]	DRIVE (B)	-128 ~ +127	000
W[C04]	CUTOFF (R)	-128 ~ +127	000
W[C05]	CUTOFF (G)	-128 ~ +127	000
W[C06]	CUTOFF (B)	-128 ~ +127	000
WD [PAL(COMPOS.,Y/C) LOW]			
W[D01]	DRIVE (R)	-128 ~ +127	000
W[D02]	DRIVE (G)	–	000
W[D03]	DRIVE (B)	-128 ~ +127	000
W[D04]	CUTOFF (R)	-128 ~ +127	000
W[D05]	CUTOFF (G)	-128 ~ +127	000
W[D06]	CUTOFF (B)	-128 ~ +127	000
WE [COMP. 480(576)i HIGH]			
W[E01]	DRIVE (R)	-128 ~ +127	000
W[E02]	DRIVE (G)	–	000
W[E03]	DRIVE (B)	-128 ~ +127	000
W[E04]	CUTOFF (R)	-128 ~ +127	000
W[E05]	CUTOFF (G)	-128 ~ +127	000
W[E06]	CUTOFF (B)	-128 ~ +127	000
WF [COMP. 480(576)i LOW]			
W[F01]	DRIVE (R)	-128 ~ +127	000
W[F02]	DRIVE (G)	–	000
W[F03]	DRIVE (B)	-128 ~ +127	000
W[F04]	CUTOFF (R)	-128 ~ +127	000
W[F05]	CUTOFF (G)	-128 ~ +127	000
W[F06]	CUTOFF (B)	-128 ~ +127	000

No.	Setting item	Variable range	Initial setting value
WG [COMP. 480(576)p HIGH]			
W[G01]	DRIVE (R)	-128 ~ +127	000
W[G02]	DRIVE (G)	–	000
W[G03]	DRIVE (B)	-128 ~ +127	000
W[G04]	CUTOFF (R)	-128 ~ +127	000
W[G05]	CUTOFF (G)	-128 ~ +127	000
W[G06]	CUTOFF (B)	-128 ~ +127	000
WH [COMP. 480(576)p LOW]			
W[H01]	DRIVE (R)	-128 ~ +127	000
W[H02]	DRIVE (G)	–	000
W[H03]	DRIVE (B)	-128 ~ +127	000
W[H04]	CUTOFF (R)	-128 ~ +127	000
W[H05]	CUTOFF (G)	-128 ~ +127	000
W[H06]	CUTOFF (B)	-128 ~ +127	000
WI [COMP. 1080/60i HIGH]			
W[I01]	DRIVE (R)	-128 ~ +127	000
W[I02]	DRIVE (G)	–	000
W[I03]	DRIVE (B)	-128 ~ +127	000
W[I04]	CUTOFF (R)	-128 ~ +127	000
W[I05]	CUTOFF (G)	-128 ~ +127	000
W[I06]	CUTOFF (B)	-128 ~ +127	000
WJ [COMP. 1080/60i LOW]			
W[J01]	DRIVE (R)	-128 ~ +127	000
W[J02]	DRIVE (G)	–	000
W[J03]	DRIVE (B)	-128 ~ +127	000
W[J04]	CUTOFF (R)	-128 ~ +127	000
W[J05]	CUTOFF (G)	-128 ~ +127	000
W[J06]	CUTOFF (B)	-128 ~ +127	000
WK [COMP. 1035/60i HIGH]			
W[K01]	DRIVE (R)	-128 ~ +127	000
W[K02]	DRIVE (G)	–	000
W[K03]	DRIVE (B)	-128 ~ +127	000
W[K04]	CUTOFF (R)	-128 ~ +127	000
W[K05]	CUTOFF (G)	-128 ~ +127	000
W[K06]	CUTOFF (B)	-128 ~ +127	000
WL [COMP. 1035/60i LOW]			
W[L01]	DRIVE (R)	-128 ~ +127	000
W[L02]	DRIVE (G)	–	000
W[L03]	DRIVE (B)	-128 ~ +127	000
W[L04]	CUTOFF (R)	-128 ~ +127	000
W[L05]	CUTOFF (G)	-128 ~ +127	000
W[L06]	CUTOFF (B)	-128 ~ +127	000

No.	Setting item	Variable range	Initial setting value
WM [COMP. 1080/50i HIGH]			
W[M01]	DRIVE (R)	-128 ~ +127	000
W[M02]	DRIVE (G)	–	000
W[M03]	DRIVE (B)	-128 ~ +127	000
W[M04]	CUTOFF (R)	-128 ~ +127	000
W[M05]	CUTOFF (G)	-128 ~ +127	000
W[M06]	CUTOFF (B)	-128 ~ +127	000
WN [COMP. 1080/50i LOW]			
W[N01]	DRIVE (R)	-128 ~ +127	000
W[N02]	DRIVE (G)	–	000
W[N03]	DRIVE (B)	-128 ~ +127	000
W[N04]	CUTOFF (R)	-128 ~ +127	000
W[N05]	CUTOFF (G)	-128 ~ +127	000
W[N06]	CUTOFF (B)	-128 ~ +127	000
WO [COMP. 1080/24psF HIGH]			
W[O01]	DRIVE (R)	-128 ~ +127	000
W[O02]	DRIVE (G)	–	000
W[O03]	DRIVE (B)	-128 ~ +127	000
W[O04]	CUTOFF (R)	-128 ~ +127	000
W[O05]	CUTOFF (G)	-128 ~ +127	000
W[O06]	CUTOFF (B)	-128 ~ +127	000
WP [COMP. 1080/24psF LOW]			
W[P01]	DRIVE (R)	-128 ~ +127	000
W[P02]	DRIVE (G)	–	000
W[P03]	DRIVE (B)	-128 ~ +127	000
W[P04]	CUTOFF (R)	-128 ~ +127	000
W[P05]	CUTOFF (G)	-128 ~ +127	000
W[P06]	CUTOFF (B)	-128 ~ +127	000
WQ [COMP. 720/60p HIGH]			
W[Q01]	DRIVE (R)	-128 ~ +127	000
W[Q02]	DRIVE (G)	–	000
W[Q03]	DRIVE (B)	-128 ~ +127	000
W[Q04]	CUTOFF (R)	-128 ~ +127	000
W[Q05]	CUTOFF (G)	-128 ~ +127	000
W[Q06]	CUTOFF (B)	-128 ~ +127	000
WR [COMP. 720/60p LOW]			
W[R01]	DRIVE (R)	-128 ~ +127	000
W[R02]	DRIVE (G)	–	000
W[R03]	DRIVE (B)	-128 ~ +127	000
W[R04]	CUTOFF (R)	-128 ~ +127	000
W[R05]	CUTOFF (G)	-128 ~ +127	000
W[R06]	CUTOFF (B)	-128 ~ +127	000

No.	Setting item	Variable range	Initial setting value
WS [COMP. 720/50p HIGH]			
W[S01]	DRIVE (R)	-128 ~ +127	000
W[S02]	DRIVE (G)	–	000
W[S03]	DRIVE (B)	-128 ~ +127	000
W[S04]	CUTOFF (R)	-128 ~ +127	000
W[S05]	CUTOFF (G)	-128 ~ +127	000
W[S06]	CUTOFF (B)	-128 ~ +127	000
WT [COMP. 720/50p LOW]			
W[T01]	DRIVE (R)	-128 ~ +127	000
W[T02]	DRIVE (G)	–	000
W[T03]	DRIVE (B)	-128 ~ +127	000
W[T04]	CUTOFF (R)	-128 ~ +127	000
W[T05]	CUTOFF (G)	-128 ~ +127	000
W[T06]	CUTOFF (B)	-128 ~ +127	000
WU [RGB HIGH]			
W[U01]	DRIVE (R)	-128 ~ +127	000
W[U02]	DRIVE (G)	–	000
W[U03]	DRIVE (B)	-128 ~ +127	000
W[U04]	CUTOFF (R)	-128 ~ +127	000
W[U05]	CUTOFF (G)	-128 ~ +127	000
W[U06]	CUTOFF (B)	-128 ~ +127	000
WV [RGB LOW]			
W[V01]	DRIVE (R)	-128 ~ +127	000
W[V02]	DRIVE (G)	–	000
W[V03]	DRIVE (B)	-128 ~ +127	000
W[V04]	CUTOFF (R)	-128 ~ +127	000
W[V05]	CUTOFF (G)	-128 ~ +127	000
W[V06]	CUTOFF (B)	-128 ~ +127	000
WW [COMMON HIGH] NOTE : When the value of item WW is changed, it is necessary to readjust white balance HIGH of all signals.			
W[W01]	DRIVE (R)	000 ~ 127	070
W[W02]	DRIVE (G)	–	064
W[W03]	DRIVE (B)	000 ~ 127	060
W[W04]	CUTOFF (R)	000 ~ 255	050
W[W05]	CUTOFF (G)	000 ~ 255	050
W[W06]	CUTOFF (B)	000 ~ 255	050
WX [COMMON LOW] NOTE : When the value of item WX is changed, it is necessary to readjust white balance LOW of all signals.			
W[X01]	DRIVE (R)	000 ~ 127	080
W[X02]	DRIVE (G)	–	064
W[X03]	DRIVE (B)	000 ~ 127	044
W[X04]	CUTOFF (R)	000 ~ 255	050
W[X05]	CUTOFF (G)	000 ~ 255	050
W[X06]	CUTOFF (B)	000 ~ 255	050

[DEFLECTION BLOCK]

No.	Setting item	Variable range	Initial setting value
DA [NTSC(COMPOS.,Y/C) OVER]			
D[A01]	HORIZONTAL SIZE	-064 ~ +064	-016
D[A02]	VERTICAL SIZE	-064 ~ +064	010
D[A03]	HORIZONTAL POSITION	-064 ~ +064	+015
D[A04]	VERTICAL POSITION	-064 ~ +064	000
D[A05]	SIDE PIN DISTORTION	-032 ~ +032	+005
D[A06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[A07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[A08]	PARALLELOGRAM DISTORTION	-032 ~ +032	-002
D[A09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-003
D[A10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[A11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-005
D[A12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-004
DB [NTSC(COMPOS.,Y/C) UNDER]			
D[B01]	HORIZONTAL SIZE	-064 ~ +064	-010
D[B02]	VERTICAL SIZE	-064 ~ +064	-025
D[B03]	HORIZONTAL POSITION	-064 ~ +064	000
D[B04]	VERTICAL POSITION	-064 ~ +064	000
D[B05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[B06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[B07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[B08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[B09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[B10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[B11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[B12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DC [PAL(COMPOS.,Y/C) OVER]			
D[C01]	HORIZONTAL SIZE	-064 ~ +064	-016
D[C02]	VERTICAL SIZE	-064 ~ +064	+010
D[C03]	HORIZONTAL POSITION	-064 ~ +064	+010
D[C04]	VERTICAL POSITION	-064 ~ +064	+005
D[C05]	SIDE PIN DISTORTION	-032 ~ +032	+007
D[C06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[C07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[C08]	PARALLELOGRAM DISTORTION	-032 ~ +032	-001
D[C09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-005
D[C10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[C11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-005
D[C12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-003
DD [PAL(COMPOS.,Y/C) UNDER]			
D[D01]	HORIZONTAL SIZE	-064 ~ +064	-010
D[D02]	VERTICAL SIZE	-064 ~ +064	-025

No.	Setting item	Variable range	Initial setting value
D[D03]	HORIZONTAL POSITION	-064 ~ +064	000
D[D04]	VERTICAL POSITION	-064 ~ +064	000
D[D05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[D06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[D07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[D08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[D09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[D10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[D11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[D12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	+001
DE [480/60i OVER]			
D[E01]	HORIZONTAL SIZE	-064 ~ +064	-019
D[E02]	VERTICAL SIZE	-064 ~ +064	+010
D[E03]	HORIZONTAL POSITION	-064 ~ +064	+013
D[E04]	VERTICAL POSITION	-064 ~ +064	000
D[E05]	SIDE PIN DISTORTION	-032 ~ +032	+007
D[E06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[E07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[E08]	PARALLELOGRAM DISTORTION	-032 ~ +032	-002
D[E09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-003
D[E10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[E11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-005
D[E12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-003
DF [480/60i UNDER]			
D[F01]	HORIZONTAL SIZE	-064 ~ +064	-009
D[F02]	VERTICAL SIZE	-064 ~ +064	-024
D[F03]	HORIZONTAL POSITION	-064 ~ +064	000
D[F04]	VERTICAL POSITION	-064 ~ +064	000
D[F05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[F06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[F07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[F08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[F09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[F10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[F11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[F12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DG [576/50i OVER]			
D[G01]	HORIZONTAL SIZE	-064 ~ +064	-016
D[G02]	VERTICAL SIZE	-064 ~ +064	+010
D[G03]	HORIZONTAL POSITION	-064 ~ +064	+013
D[G04]	VERTICAL POSITION	-064 ~ +064	+005
D[G05]	SIDE PIN DISTORTION	-032 ~ +032	+005

No.	Setting item	Variable range	Initial setting value
D[G06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[G07]	CORNER DISTORTION (S)	-032 ~ +032	-002
D[G08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[G09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-005
D[G10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[G11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-005
D[G12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DH [576/50i UNDER]			
D[H01]	HORIZONTAL SIZE	-064 ~ +064	-010
D[H02]	VERTICAL SIZE	-064 ~ +064	-025
D[H03]	HORIZONTAL POSITION	-064 ~ +064	000
D[H04]	VERTICAL POSITION	-064 ~ +064	000
D[H05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[H06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[H07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[H08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[H09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[H10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[H11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[H12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DI [480/60p OVER]			
D[I01]	HORIZONTAL SIZE	-064 ~ +064	-028
D[I02]	VERTICAL SIZE	-064 ~ +064	+015
D[I03]	HORIZONTAL POSITION	-064 ~ +064	+012
D[I04]	VERTICAL POSITION	-064 ~ +064	+005
D[I05]	SIDE PIN DISTORTION	-032 ~ +032	+002
D[I06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[I07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[I08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[I09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-005
D[I10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[I11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-005
D[I12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-005
DJ [480/60p UNDER]			
D[J01]	HORIZONTAL SIZE	-064 ~ +064	-011
D[J02]	VERTICAL SIZE	-064 ~ +064	-024
D[J03]	HORIZONTAL POSITION	-064 ~ +064	000
D[J04]	VERTICAL POSITION	-064 ~ +064	-002
D[J05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[J06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[J07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[J08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000

No.	Setting item	Variable range	Initial setting value
D[J09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[J10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[J11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[J12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	+002
DK [576/50p OVER]			
D[K01]	HORIZONTAL SIZE	-064 ~ +064	-030
D[K02]	VERTICAL SIZE	-064 ~ +064	+015
D[K03]	HORIZONTAL POSITION	-064 ~ +064	+010
D[K04]	VERTICAL POSITION	-064 ~ +064	+005
D[K05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[K06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[K07]	CORNER DISTORTION (S)	-032 ~ +032	-005
D[K08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[K09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-005
D[K10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[K11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-004
D[K12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DL [576/50p UNDER]			
D[L01]	HORIZONTAL SIZE	-064 ~ +064	-010
D[L02]	VERTICAL SIZE	-064 ~ +064	-025
D[L03]	HORIZONTAL POSITION	-064 ~ +064	000
D[L04]	VERTICAL POSITION	-064 ~ +064	000
D[L05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[L06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[L07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[L08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[L09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[L10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[L11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[L12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DM [1080/60i OVER]			
D[M01]	HORIZONTAL SIZE	-064 ~ +064	-032
D[M02]	VERTICAL SIZE	-064 ~ +064	010
D[M03]	HORIZONTAL POSITION	-064 ~ +064	+025
D[M04]	VERTICAL POSITION	-064 ~ +064	000
D[M05]	SIDE PIN DISTORTION	-032 ~ +032	+015
D[M06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[M07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[M08]	PARALLELOGRAM DISTORTION	-032 ~ +032	-001
D[M09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	+002
D[M10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[M11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-002
D[M12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000

No.	Setting item	Variable range	Initial setting value
DN [1080/60i UNDER]			
D[N01]	HORIZONTAL SIZE	-064 ~ +064	-011
D[N02]	VERTICAL SIZE	-064 ~ +064	-025
D[N03]	HORIZONTAL POSITION	-064 ~ +064	000
D[N04]	VERTICAL POSITION	-064 ~ +064	+001
D[N05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[N06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[N07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[N08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[N09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[N10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[N11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[N12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DO [1035/60i OVER]			
D[O01]	HORIZONTAL SIZE	-064 ~ +064	-032
D[O02]	VERTICAL SIZE	-064 ~ +064	+025
D[O03]	HORIZONTAL POSITION	-064 ~ +064	+025
D[O04]	VERTICAL POSITION	-064 ~ +064	+005
D[O05]	SIDE PIN DISTORTION	-032 ~ +032	+015
D[O06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[O07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[O08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[O09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-001
D[O10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[O11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	+002
D[O12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DP [1035/60i UNDER]			
D[P01]	HORIZONTAL SIZE	-064 ~ +064	-012
D[P02]	VERTICAL SIZE	-064 ~ +064	-030
D[P03]	HORIZONTAL POSITION	-064 ~ +064	000
D[P04]	VERTICAL POSITION	-064 ~ +064	000
D[P05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[P06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[P07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[P08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[P09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[P10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[P11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[P12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DQ [1080/50i OVER]			
D[Q01]	HORIZONTAL SIZE	-064 ~ +064	-025
D[Q02]	VERTICAL SIZE	-064 ~ +064	000
D[Q03]	HORIZONTAL POSITION	-064 ~ +064	+030

No.	Setting item	Variable range	Initial setting value
D[Q04]	VERTICAL POSITION	-064 ~ +064	000
D[Q05]	SIDE PIN DISTORTION	-032 ~ +032	+015
D[Q06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[Q07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[Q08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[Q09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-005
D[Q10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[Q11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-002
D[Q12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-002
DR [1080/50i UNDER]			
D[R01]	HORIZONTAL SIZE	-064 ~ +064	-015
D[R02]	VERTICAL SIZE	-064 ~ +064	-025
D[R03]	HORIZONTAL POSITION	-064 ~ +064	000
D[R04]	VERTICAL POSITION	-064 ~ +064	000
D[R05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[R06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[R07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[R08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[R09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[R10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[R11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[R12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DS [1080/24pF OVER]			
D[S01]	HORIZONTAL SIZE	-064 ~ +064	-030
D[S02]	VERTICAL SIZE	-064 ~ +064	+010
D[S03]	HORIZONTAL POSITION	-064 ~ +064	+037
D[S04]	VERTICAL POSITION	-064 ~ +064	000
D[S05]	SIDE PIN DISTORTION	-032 ~ +032	+017
D[S06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[S07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[S08]	PARALLELOGRAM DISTORTION	-032 ~ +032	-001
D[S09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	-001
D[S10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[S11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	+002
D[S12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DT [1080/24pF UNDER]			
D[T01]	HORIZONTAL SIZE	-064 ~ +064	-011
D[T02]	VERTICAL SIZE	-064 ~ +064	-028
D[T03]	HORIZONTAL POSITION	-064 ~ +064	000
D[T04]	VERTICAL POSITION	-064 ~ +064	+001
D[T05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[T06]	CORNER DISTORTION (W)	-032 ~ +032	000

No.	Setting item	Variable range	Initial setting value
D[T07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[T08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[T09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[T10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[T11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[T12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DU [720/60p OVER]			
D[U01]	HORIZONTAL SIZE	-064 ~ +064	+014
D[U02]	VERTICAL SIZE	-064 ~ +064	+012
D[U03]	HORIZONTAL POSITION	-064 ~ +064	+013
D[U04]	VERTICAL POSITION	-064 ~ +064	000
D[U05]	SIDE PIN DISTORTION	-032 ~ +032	+012
D[U06]	CORNER DISTORTION (W)	-032 ~ +032	-002
D[U07]	CORNER DISTORTION (S)	-032 ~ +032	-002
D[U08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[U09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	+001
D[U10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[U11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-002
D[U12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DV [720/60p UNDER]			
D[V01]	HORIZONTAL SIZE	-064 ~ +064	-017
D[V02]	VERTICAL SIZE	-064 ~ +064	-028
D[V03]	HORIZONTAL POSITION	-064 ~ +064	000
D[V04]	VERTICAL POSITION	-064 ~ +064	+001
D[V05]	SIDE PIN DISTORTION	-032 ~ +032	+001
D[V06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[V07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[V08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[V09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[V10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[V11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[V12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DW [720/50p OVER]			
D[W01]	HORIZONTAL SIZE	-064 ~ +064	+020
D[W02]	VERTICAL SIZE	-064 ~ +064	-010
D[W03]	HORIZONTAL POSITION	-064 ~ +064	000
D[W04]	VERTICAL POSITION	-064 ~ +064	+003
D[W05]	SIDE PIN DISTORTION	-032 ~ +032	+010
D[W06]	CORNER DISTORTION (W)	-032 ~ +032	-002
D[W07]	CORNER DISTORTION (S)	-032 ~ +032	-002
D[W08]	PARALLELOGRAM DISTORTION	-032 ~ +032	+003
D[W09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000

No.	Setting item	Variable range	Initial setting value
D[W10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[W11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	-002
D[W12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	-003
DX [720/50p UNDER]			
D[X01]	HORIZONTAL SIZE	-064 ~ +064	-015
D[X02]	VERTICAL SIZE	-064 ~ +064	-027
D[X03]	HORIZONTAL POSITION	-064 ~ +064	000
D[X04]	VERTICAL POSITION	-064 ~ +064	000
D[X05]	SIDE PIN DISTORTION	-032 ~ +032	000
D[X06]	CORNER DISTORTION (W)	-032 ~ +032	000
D[X07]	CORNER DISTORTION (S)	-032 ~ +032	000
D[X08]	PARALLELOGRAM DISTORTION	-032 ~ +032	000
D[X09]	TRAPEZOIDAL DISTORTION	-032 ~ +032	000
D[X10]	HORIZONTAL ARC DISTORTION	-032 ~ +032	000
D[X11]	VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[X12]	VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
DY [ASPECT]			
D[Y01]	NTSC OVERSCAN VERTICAL SIZE	-064 ~ +064	+008
D[Y02]	NTSC OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y03]	NTSC OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y04]	NTSC UNDERSCAN VERTICAL SIZE	-064 ~ +064	+006
D[Y05]	NTSC UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y06]	NTSC UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y07]	PAL OVERSCAN VERTICAL SIZE	-064 ~ +064	+005
D[Y08]	PAL OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y09]	PAL OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y10]	PAL UNDERSCAN VERTICAL SIZE	-064 ~ +064	+005
D[Y11]	PAL UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y12]	PAL UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y13]	480i OVERSCAN VERTICAL SIZE	-064 ~ +064	+010
D[Y14]	480i OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y15]	480i OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y16]	480i UNDERSCAN VERTICAL SIZE	-064 ~ +064	+006
D[Y17]	480i UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y18]	480i UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y19]	576i OVERSCAN VERTICAL SIZE	-064 ~ +064	+010
D[Y20]	576i OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y21]	576i OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y22]	576i UNDERSCAN VERTICAL SIZE	-064 ~ +064	+006
D[Y23]	576i UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y24]	576i UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y25]	480p OVERSCAN VERTICAL SIZE	-064 ~ +064	+010

No.	Setting item	Variable range	Initial setting value
D[Y26]	480p OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y27]	480p OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y28]	480p UNDERSCAN VERTICAL SIZE	-064 ~ +064	+006
D[Y29]	480p UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y30]	480p UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y31]	576p OVERSCAN VERTICAL SIZE	-064 ~ +064	+010
D[Y32]	576p OVERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y33]	576p OVERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
D[Y34]	576p UNDERSCAN VERTICAL SIZE	-064 ~ +064	+006
D[Y35]	576p UNDERSCAN VERTICAL POSITION	-064 ~ +064	+001
D[Y36]	576p UNDERSCAN SIDE PIN DISTORTION	-032 ~ +032	+012
DZ [V.LIN/FOCUS]			
D[Z01]	45 ~ 55Hz VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	+011
D[Z02]	45 ~ 55Hz VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	+003
D[Z03]	45 ~ 55Hz FOCUS (PARABOLA)	-032 ~ +032	000
D[Z04]	55 ~ 65Hz VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	+011
D[Z05]	55 ~ 65Hz VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	+003
D[Z06]	55 ~ 65Hz FOCUS (PARABOLA)	-032 ~ +032	000
D[Z07]	720/60p VERTICAL LINEARITY (S CORRECTION)	-016 ~ +016	000
D[Z08]	720/60p VERTICAL LINEARITY (C CORRECTION)	-016 ~ +016	000
D[Z09]	720/60p FOCUS (PARABOLA)	-032 ~ +032	-030
D1 [ROTATION/PURITY]			
D[101]	ROTATION	-032 ~ +031	+017
D[102]	PURITY	-128 ~ +127	000
D2 [COMMON]			
D[201]	HORIZONTAL SIZE	000 ~ 127	063
D[202]	VERTICAL SIZE	000 ~ 127	063
D[203]	HORIZONTAL POSITION	000 ~ 127	063
D[204]	VERTICAL POSITION	000 ~ 127	063
D[205]	SIDE PIN DISTORTION	000 ~ 063	031
D[206]	CORNER DISTORTION (W)	000 ~ 063	031
D[207]	CORNER DISTORTION (S)	000 ~ 063	031
D[208]	PARALLELOGRAM DISTORTION	000 ~ 063	031
D[209]	TRAPEZOIDAL DISTORTION	000 ~ 063	031
D[210]	HORIZONTAL ARC DISTORTION	000 ~ 063	031
D[211]	VERTICAL LINEARITY (S CORRECTION)	000 ~ 031	016
D[212]	VERTICAL LINEARITY (C CORRECTION)	000 ~ 031	016
D[213]	VERTICAL MAX SIZE CONTROL	000 ~ 031	016
D[214]	FOCUS (PHASE)	000 ~ 063	022
D[215]	FOCUS (PARABOLA)	000 ~ 063	044
D3 [ZOOM SIZE]			
D[301]	HORIZONTAL SIZE	-064 ~ +064	+020

No.	Setting item	Variable range	Initial setting value
D[302]	VERTICAL SIZE	-064 ~ +064	+040
D[303]	HORIZONTAL POSITION	-064 ~ +064	000
D[304]	VERTICAL POSITION	-064 ~ +064	000
D[305]	SIDE PIN DISTORTION	-032 ~ +032	-003

[CPU BLOCK]

No.	Setting item	Variable range	Initial setting value
CC [SETTING]			
C[C41]	AKB SETTING	000 ~ 003	000
CE [OSD etc]			
C[E05]	NTSC, 480/60i CORNER DISTORTION (W)	-032 ~ +032	000
C[E06]	NTSC, 480/60i CORNER DISTORTION (S)	-032 ~ +032	000
C[E07]	NTSC, 480/60i PARALLELOGRAM DISTORTION	-032 ~ +032	000
C[E08]	NTSC, 480/60i TRAPEZOIDAL DISTORTION	-032 ~ +032	-002
C[E09]	NTSC, 480/60i HORIZONTAL ARC DISTORTION	-032 ~ +032	000
C[E10]	PAL, 576/50i CORNER DISTORTION (W)	-032 ~ +032	000
C[E11]	PAL, 576/50i CORNER DISTORTION (S)	-032 ~ +032	000
C[E12]	PAL, 576/50i PARALLELOGRAM DISTORTION	-032 ~ +032	000
C[E13]	PAL, 576/50i TRAPEZOIDAL DISTORTION	-032 ~ +032	-002
C[E14]	PAL, 576/50i HORIZONTAL ARC DISTORTION	-032 ~ +032	000
C[E15]	480/60p CORNER DISTORTION (W)	-032 ~ +032	000
C[E16]	480/60p CORNER DISTORTION (S)	-032 ~ +032	000
C[E17]	480/60p PARALLELOGRAM DISTORTION	-032 ~ +032	000
C[E18]	480/60p TRAPEZOIDAL DISTORTION	-032 ~ +032	-002
C[E19]	480/60p HORIZONTAL ARC DISTORTION	-032 ~ +032	000
C[E20]	576/50p CORNER DISTORTION (W)	-032 ~ +032	000
C[E21]	576/50p CORNER DISTORTION (S)	-032 ~ +032	000
C[E22]	576/50p PARALLELOGRAM DISTORTION	-032 ~ +032	000
C[E23]	576/50p TRAPEZOIDAL DISTORTION	-032 ~ +032	-002
C[E24]	576/50p HORIZONTAL ARC DISTORTION	-032 ~ +032	000

NOTE : Do not alter the adjustment values of CPU BLOCK (excluding the CC41 and CE05 to CE24), UPC1884 ADJ. and TA1276 ADJ.

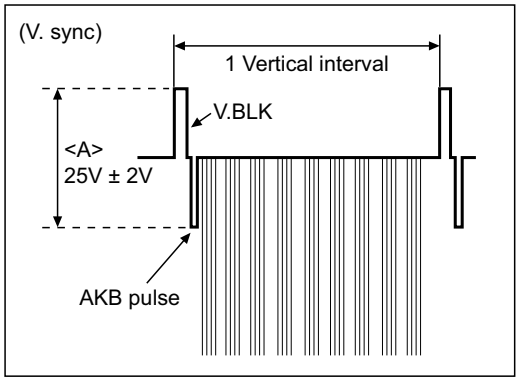
4.10 ADJUSTMENT PROCEDURES

4.10.1 SCREEN VOLTAGE COARSE ADJUSTMENT

SCREEN VOLTAGE COARSE ADJUSTMENT	
Measuring Instruments	**Signal generator (All-black signal, Crosshatch signal)** **Oscilloscope**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**Anode of CRT** **TP-47B, TP-47R, TP-47G [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**SCREEN VR [Bottom potentiometer on high-voltage transformer]** **VR502 (High-voltage VR) [S.CORRECTION PWB]** **FOCUS VR1 [Top potentiometer on high-voltage transformer]** **FOCUS VR2 [Middle potentiometer on high-voltage transformer]** **CC41 (AKB Setting) [Service Menu]**

Note: Ensure that the value of CC41 (CPU BLOCK) in the Service Menu is "000".

(1) Turn the SCREEN VR fully counterclockwise.
(2) Connect the oscilloscope across TP-47B and TP-GND.
(3) Connect the GND of high-voltage voltmeter to the braided wire.
(4) Connect the high-voltage voltmeter to the anode of the CRT and turn the unit ON.
(5) Apply the 1080/60i component all-black signal to INPUT A.
(6) Check that the high-voltage value is **24** to **25 kV**. If it is higher than **25 kV**, adjustment the **VR502** so that the high-voltage value becomes to specified value.
(7) Turn the **SCREEN VR** slowly clockwise until the raster lights up slightly.
(8) Set the value of **CC41 (CPU BLOCK)** in the Service Menu from "000" to "002".
(9) Turn the **SCREEN VR** slowly clockwise until the voltage amplitude <A> of the AKB pulse at TP-47G is about **25 V ± 2 V**.
(10) Observe the waveforms of TP-47R and TP-47B, adjust the SCREEN VR so that the amplitude voltage <A> of the AKB pulse become to **25V ± 2V**.
(11) Apply the 1080/60i crosshatch signal to INPUT A.
(12) Adjust the **FOCUS VR1** and **VR2** so that the entire image is in focus.

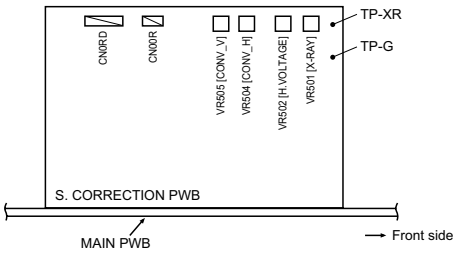


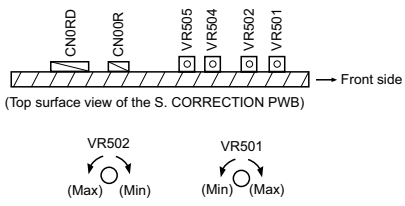
4.10.2 HIGH-VOLTAGE COARSE ADJUSTMENT

HIGH-VOLTAGE COARSE ADJUSTMENT	
Measuring Instruments	**Signal generator (Crosshatch signal with circle pattern)** **High-voltage voltmeter**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**Anode of CRT**
Adjustment Points	**VR502 (High-Voltage VR) [S. CORRECTION PWB]** **FOCUS VR1 [Top potentiometer on high-voltage transformer]** **FOCUS VR2 [Middle potentiometer on high-voltage transformer]**

Note: Perform the following adjustments after completing the Screen Voltage Coarse adjustment.

(1) Turn **VR502** fully clockwise (the minimum position).
(2) Turn **VR501** fully counterclockwise (the minimum position).
(3) Connect the high-voltage voltmeter to the anode of the CRT and turn the unit ON.
(4) Apply the 1080/60i crosshatch signal with circle pattern to INPUT A (Terminal Y on the Component/RGB Input Card).
(5) Turn **VR502** slowly counterclockwise until the value of the high voltage is about **25 kV**.
(6) Adjust the **FOCUS VR1** and **VR2** so that the entire image is in focus.



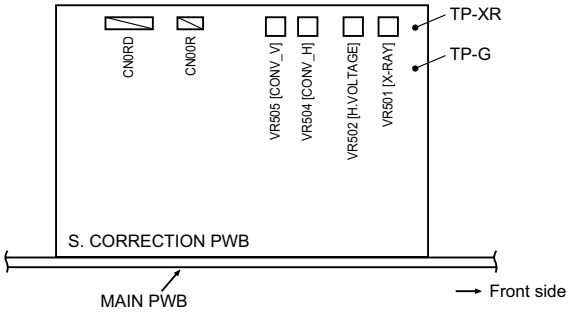


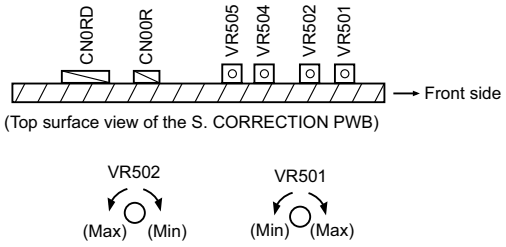
4.10.3 X-RAY PROTECTOR ADJUSTMENT/CHECK

X-RAY PROTECTOR ADJUSTMENT/CHECK	
Measuring Instruments	**Signal generator (All-white signal)** **High-voltage voltmeter** **DC voltmeter**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**Anode of CRT** **TP-XR, TP-GND [S. CORRECTION PWB]**
Adjustment Points	**VR501 (X-Ray Protector Adjustment VR) [S. CORRECTION PWB]** **VR502 (High-Voltage VR) [S. CORRECTION PWB]**

Note: Perform the following adjustment after completing the Screen Voltage Coarse adjustment.

(1) Turn the **VR502** fully clockwise (the minimum position).
(2) Turn the **VR501** fully counterclockwise (the minimum position).
(3) Set the CONTRAST and BRIGHT potentiometers on the front panel to the fully clockwise positions.
(4) Connect the high-voltage voltmeter to the anode of the CRT and turn the unit ON.
(5) Apply the 1080/60i all-white signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(6) Turn the **VR502** slowly counterclockwise until the value of the high-voltage voltmeter is **27.0 kV ± 0.2 kV**.
(7) Connect the DC voltmeter across TP-XR and TP-GND.
(8) Turn the **VR501** clockwise until the voltmeter reading is **5.5 V**.
(9) Turn the **VR501** slowly clockwise until the point at which the X-ray protector starts operation.
(The power turns off at the first operation and then turns on again 5 seconds later. At the second operation, the power turns off and the LED of the INPUT SELECT D of the front panel blinks. When two operations are done consecutively, it stops at the stand-by position.)
(10) Turn the **VR502** slightly clockwise and turn the unit ON again.
(11) Turn the **VR502** slowly counterclockwise and check the point at which the X-ray protector starts to operate.
Check that the high-voltage voltmeter value at which the X-ray protector starts to operate, is **27.0 kV ± 0.2 kV**.
(12) Apply adhesive for fixing the **VR501** in the adjusted position.
(13) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(14) Turn the **VR502** fully clockwise (the minimum position).



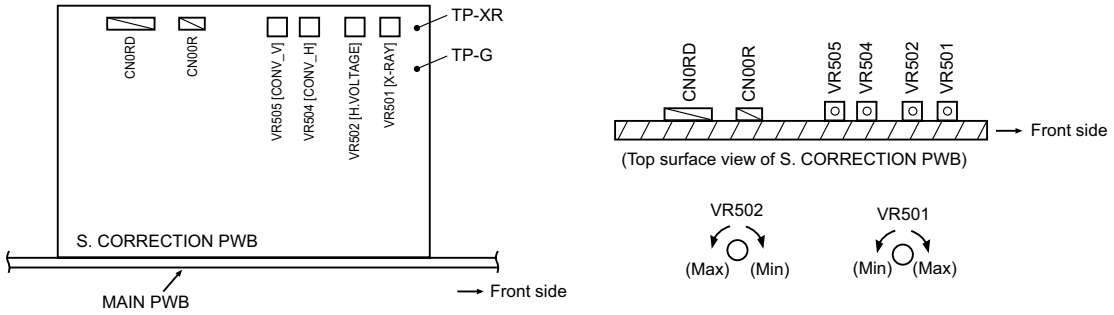


4.10.4 HIGH-VOLTAGE ADJUSTMENT

HIGH-VOLTAGE ADJUSTMENT	
Measuring Instruments	**Signal generator (All-black signal)** **High-voltage voltmeter**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**Anode of CRT**
Adjustment Points	**VR502 (High-Voltage VR) [S. CORRECTION PWB]**

Note: Perform the following adjustments after completing the Screen Voltage Coarse adjustment and X-Ray Protector adjustment.

(1) Turn the **VR502** fully clockwise.
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the fully clockwise positions.
(3) Connect the high-voltage voltmeter to the anode of the CRT and turn the unit ON.
(4) Apply the 1080/60i all-black signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(5) If the raster is visible, adjust the BRIGHT potentiometer on the front panel to turn the screen all black.
(6) Turn the **VR502** slowly counterclockwise until the value of the high voltage is **25 kV ± 0.2 kV**.
(7) Apply adhesive for fixing the **VR502** in the adjusted position.
(8) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.



4.10.5 FOCUS ADJUSTMENT

FOCUS ADJUSTMENT	
Measur Instruments	**Signal generator (Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**FOCUS VR1 [Top potentiometer on high-voltage transformer]** **FOCUS VR2 [Middle potentiometer on high-voltage transformer]**

Note: Perform the following adjustments after completing the Screen Voltage Coarse adjustment , X-Ray Protector and High-Voltage adjustments.

(1) Apply the 1080/60i crosshatch signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Adjust the **FOCUS VR1** and **VR2** so that the horizontal and vertical lines in the image are clearly visible.

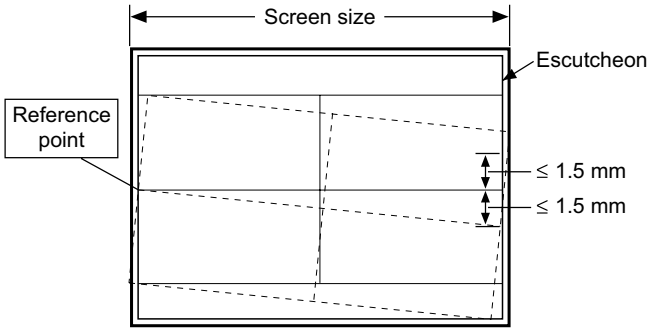
4.10.6 IMAGE ROTATION ADJUSTMENT

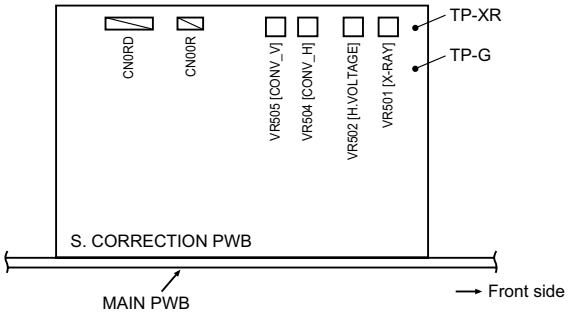
IMAGE ROTATION ADJUSTMENT	
Measuring Instruments	**Signal generator (Size adjustment signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**D101 (Rotation), DM04 (Vertical Position) [Service Menu]**

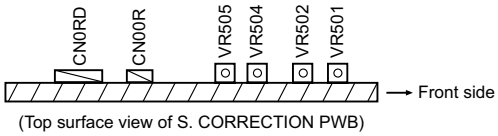
Notes:

- **Perform the following adjustments after completing the Screen Voltage Coarse adjustment, High-Voltage, Focus and X-Ray Protector adjustments.**
- **Ensure that CN0RD and CN00R on the S. Correction PWB are connected to the Deflection Yoke and Main PWB.**

(1) Apply the 1080/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Adjust **D101** of the Service Menu to decrease the image tilting to no more than **1.5 mm** (**1.5 mm** or less above or below the middle line). If the reference point which is the vertical center position on the left of the image (reference points) is deviated, adjust **DM04** to correct it.







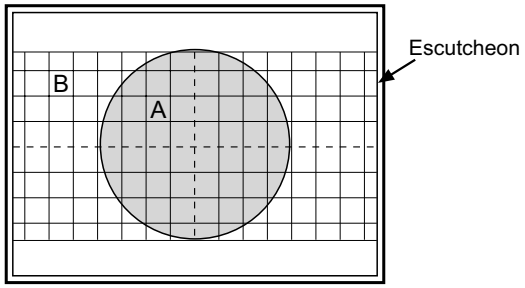
4.10.7 CONVERGENCE ADJUSTMENT

CONVERGENCE ADJUSTMENT	
Measuring Instruments	**Signal generator (Crosshatch signal with circle pattern)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**VR504 (CONV_H) [S. CORRECTION PWB]** **VR505 (CONV_V) [S. CORRECTION PWB]**

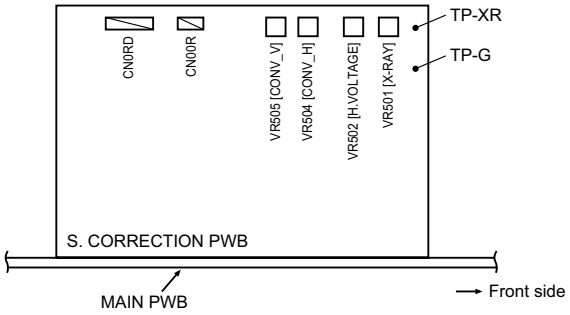
Notes:

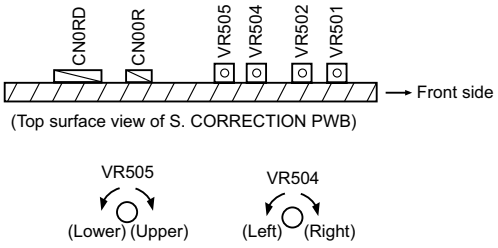
- **Perform the following adjustments after completing the Screen Voltage Coarse adjustment, X-Ray Protector, High Voltage and Focus adjustments.**
- **Ensure that CN0RD and CN00R on the S. Correction PWB are connected to the Deflection yoke and Main PWB.**

(1) Set the **VR504** and **VR505** on S. CORRECTION PWB into the position of a center.
(2) Apply the 1080/60i crosshatch signal with circle pattern to INPUT A (Terminal Y on the Component/RGB Input Card).
(3) Turn the **VR504** to optimize the horizontal convergence value at the center of the screen (turning the potentiometer counterclockwise shifts BLUE toward the right with respect to RED).
(4) Turn the **VR505** to optimize the vertical convergence value at the center of the screen (turning the potentiometer counterclockwise shifts BLUE downward with respect to RED).



	Area A	Area B
Aberration of color	≤ 0.25mm	≤ 0.35mm





4.10.8 CONTRAST ADJUSTMENTS

CONTRAST ADJUSTMENT (HDTV)	
Measuring Instruments	**Signal generator (Crosshatch signal)** **Oscilloscope**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**TP-47G [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*01 (Contrast) [Service Menu]**

Notes:

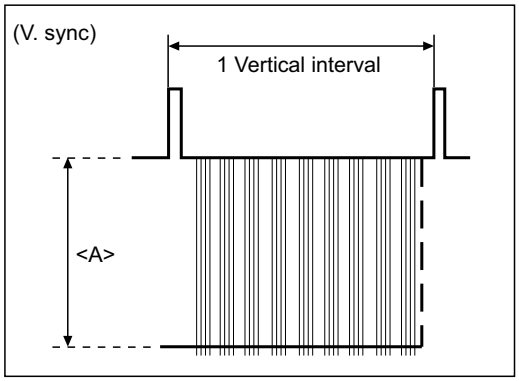
- **Perform the following adjustments after completing the Screen Voltage Coarse adjustment.**
- **Set the CONTRAST data in the Setup Menu to "00".**
- **The value adjusted at the SR adjustment becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI.**

– Standard value (SR) adjustment –

(1) Apply the 1080/60i crosshatch signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST potentiometer on the front panel to the center click position.
(3) Connect the oscilloscope across TP-47G and TP-GND.
(4) Adjust **SR01** in the Service Menu to set the voltage amplitude <A> in the figure on the right to the voltage shown in the Table 1.

– Other signals adjustments –

(5) Apply the 1080/60i crosshatch signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(6) Set the CONTRAST potentiometer on the front panel to the center click position.
(7) Connect the oscilloscope across TP-47G and TP-GND.
(8) Adjust **SI01** in the Service Menu to set the voltage amplitude <A> in the figure on the right to the voltage shown in the Table 1.
(9) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 5 to 8 above (see Table 1).



Adjustment Signal	Adjustment Data	Adjustment Voltage <A>
COMMON(1080/60i)	SR1	30 V ± 2 V
1080/60i	SI01	30 V ± 2 V
1080/50i	SK01	32 V ± 2 V
1080/24spF	SL01	33 V ± 2 V
720/60p	SM01	32 V ± 2 V
720/50p	SN01	32 V ± 2 V

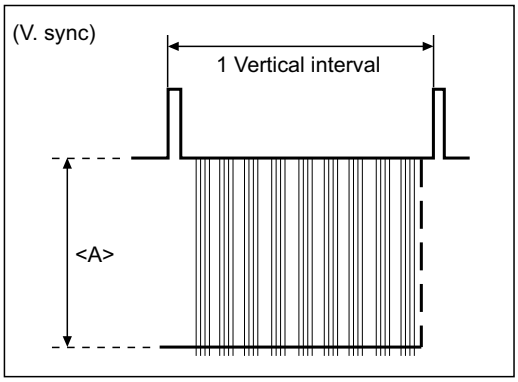
Table 1

CONTRAST ADJUSTMENT (SDTV)	
Measuring Instruments	**Signal generator (Crosshatch signal)** **Oscilloscope**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**TP-47G [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*01 (Contrast) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the 1080/60i signal Contrast adjustment.**
- **Set the CONTRAST data in the Setup Menu to "00".**
- **The SR value (see the description of the HDTV Contrast Adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI.**

(1) Apply the 480/60i crosshatch signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST potentiometer on the front panel to the center click position.
(3) Connect the oscilloscope across TP-47G and TP-GND.
(4) Adjust **SE01** in the Service Menu to set the voltage amplitude <A> in the figure on the right to the voltage shown in the Table2.
(5) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 4 above (see Table 2).



Adjustment Signal	Adjustment Data	Adjustment Voltage <A>
480/60i	SE01	36 V ± 2 V
576/50i	SF01	36 V ± 2 V
480/60p	SG01	35 V ± 2 V
576/50p	SH01	35 V ± 2 V

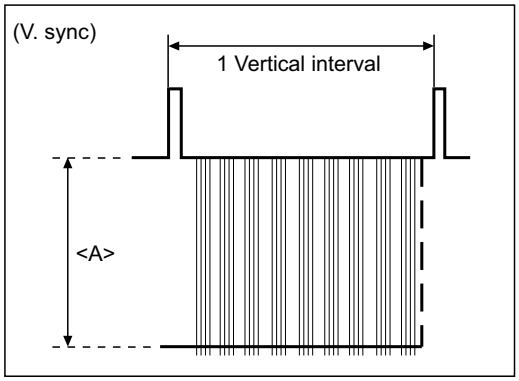
Table 2

CONTRAST ADJUSTMENT (NTSC/PAL VIDEO)	
Measuring Instruments	**Signal generator (Crosshatch signal)** **Oscilloscope**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	**TP-47G [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*01 (Contrast) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/ PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i signal Contrast Adjustment.**
- **Set the CONTRAST data in the Setup Menu to "00".**
- **The SO value (see the description of the HDTV Contrast Adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)**

(1) Apply the NTSC crosshatch signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Set the CONTRAST potentiometer on the front panel to the center click position.
(3) Connect the oscilloscope across TP-47G and TP-GND.
(4) Adjust **SA01** in the Service Menu to set the voltage amplitude <A> in the figure on the right to the voltage shown in the Table 3.
(5) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 4 above (see Table 3).



Adjustment Signal	Adjustment Data	Adjustment Voltage <A>
NTSC (VIDEO)	SA01	36 V ± 2 V
PAL (VIDEO)	SC01	36 V ± 2 V

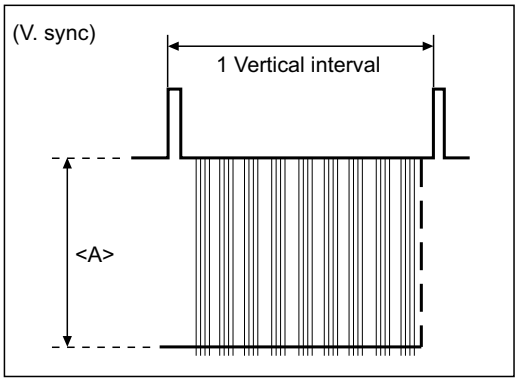
Table 3

CONTRAST ADJUSTMENT (NTSC/PAL Y/C)	
Measuring Instruments	**Signal generator (Crosshatch signal)** **Oscilloscope**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	**TP-47G [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*01 (Contrast) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i signal Contrast Adjustment.**
- **Set the CONTRAST data in the Setup Menu to "00".**
- **The SO value (see the description of the HDTV Contrast Adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)**

(1) Apply the NTSC crosshatch signal to INPUT D (Terminal Y/C on the NTSC/PAL Video Input Card).
(2) Set the CONTRAST potentiometer on the front panel to the center click position.
(3) Connect the oscilloscope across TP-47G and TP-GND.
(4) Adjust **SB01** in the Service Menu to set the voltage amplitude <A> in the figure on the right to the voltage shown in the Table 4.
(5) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 4 above (see Table 4).



Adjustment Signal	Adjustment Data	Adjustment Voltage <A>
NTSC (Y/C)	SB01	36 V ± 2 V
PAL (Y/C)	SD01	36 V ± 2 V

Table 4

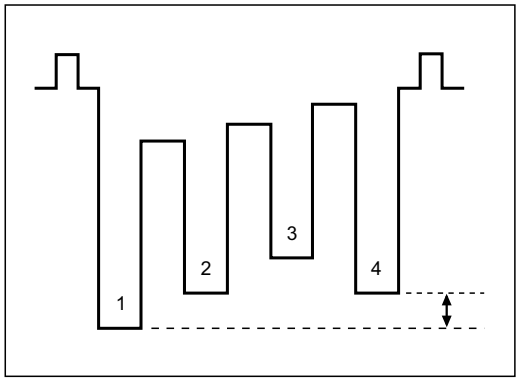
4.10.9 CHROMA/PHASE ADJUSTMENTS

CHROMA/PHASE ADJUSTMENTS (COMPONENT)	
Measuring Instruments	**Signal generator (Color bar signal)** **Oscilloscope**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**TP-47B [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*03 (Chroma), S*04 (Phase) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Contrast adjustment.**
- **Set the CHROMA and PHASE data in the Setup Menu to "00".**
- **The value adjusted at the SR adjustment becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (Component, NTSC and PAL). When re-adjusting the 1080/60i signal, use the SI.**

(1) Apply the 1080/60i component color bar signal to INPUT A.
(2) Set the CHROMA and PHASE potentiometers on the front panel to the center click positions.
(3) Connect the oscilloscope across TP-47B and TP-GND.
(4) Adjust **SR03** in the Service Menu to set the level difference between waveforms 1 and 4 in the figure on the right to **0 V ± 2 V**.
(5) Adjust **SR04** to set the level difference between 1 and 3 to 0 **V ± 2 V**.
(6) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 5 above (see Table 5).



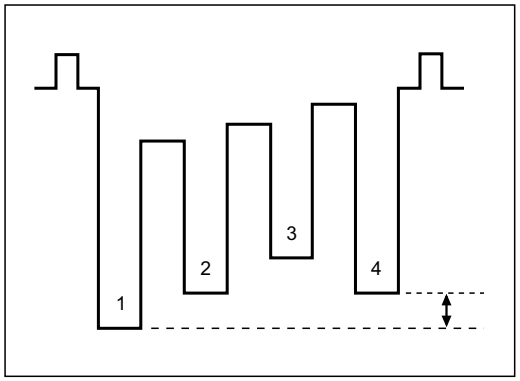
Adjustment Signal	Adjustment Data	
	Chroma	Phase
COMMON	SR03	SR04
1080/60i	SI03	SI04
1080/50i	SK03	SK04
1080/24psF	SL03	SL04
720/60p	SM03	SM04
720/50p	SN03	SN04
480/60i	SE03	SE04
576/50i	SF03	SF04
480/60p	SG03	SG04
576/50p	SH03	SH04

Table 5

CHROMA/PHASE ADJUSTMENTS (NTSC)	
Measuring Instruments	**Signal generator (Color bar signal)** **Oscilloscope**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	**TP-47B [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*03 (Chroma), S*04 (Phase) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i signal Chroma/Phase Adjustments.**
- **Set the CHROMA and PHASE data in the Setup Menu to "00".**
- **The SR value (see the description of the Component Signal Chroma/Phase Adjustments) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (Component, NTSC and PAL).**
  When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)



(1) Apply the NTSC 75% color bar signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Set the CHROMA and PHASE potentiometers on the front panel to the center click positions.
(3) Connect the oscilloscope across TP-47B and TP-GND.
(4) Adjust **SA03** in the Service Menu to set the level difference between waveforms 1 and 4 in the figure on the right to **0 V ± 2 V**.
(5) Adjust **SA04** to set the level difference between 1 and 3 to **0 V ± 2 V**.
(6) Apply the NTSC 75% color bar signal to INPUT D (Terminal Y/C on the NTSC/PAL Video Input Card) and perform the adjustments in steps 2 to 5 above. See Table 6 for the adjustment data.

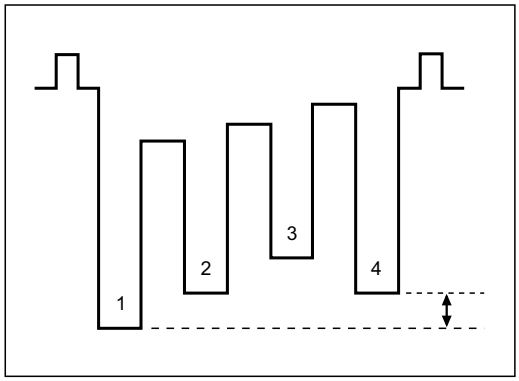
Adjustment Signal	Adjustment Data	
	Chroma	Phase
NTSC (VIDEO)	SA03	SA04
NTSC (Y/C)	SB03	SB04

Table 6

CHROMA ADJUSTMENTS (PAL)	
Measuring Instruments	**Signal generator (Color bar signal)** **Oscilloscope**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	**TP-47B [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**S*03 (Chroma) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i signal Chroma/Phase Adjustments.**
- **Set the CHROMA and PHASE data in the Setup Menu to "00".**
- **The SR value (see the description of the Component Signal Chroma/Phase Adjustments) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (Component, NTSC and PAL).**
  When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)



(1) Apply the PAL 75% color bar signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Set the CHROMA and PHASE potentiometers on the front panel to the center click positions.
(3) Connect the oscilloscope across TP-47B and TP-GND.
(4) Adjust **SC03** in the Service Menu to set the level difference between waveforms 1 and 4 in the figure on the right to **0 V ± 2 V**.
(5) Apply the PAL 75% color bar signal to INPUT D (Terminal Y/C on the NTSC/PAL Video Input Card) and perform the adjustments in steps 2 to 4 above. See Table 7 for the adjustment data.

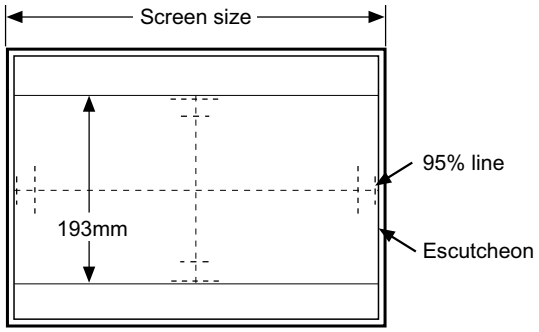
Adjustment Signal	Adjustment Data
	Chroma
PAL (VIDEO)	SC03
PAL (Y/C)	SD03

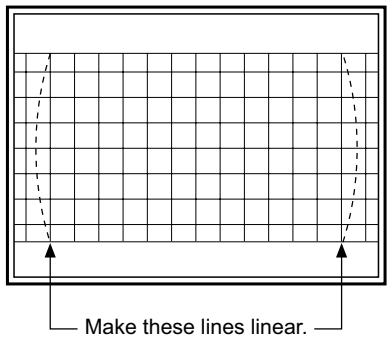
Table 7

4.10.10 DEFLECTION SYSTEM ADJUSTMENTS

HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (HDTV OVERSCAN MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

(1) Apply the 1080/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Adjust **DM04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(4) Adjust **DM02** to set the vertical amplitude of the image to **193mm**.
(5) Apply the 1080/60i crosshatch signal to INPUT A.
(6) Adjust **DM11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(7) Adjust **DM12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(8) Ensure that the center position is not deviated. If it is, adjust DM04 again.
(9) Adjust **DM11**, **DM12** and **DM04** repeatedly until the center position and vertical linearity are optimized.
(10) Adjust **DM09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(11) Adjust **DM08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DM10** to optimize the horizontal arc distortion.
(13) Adjust **DM05** so that the second vertical lines from the left and right edges are linear.
(14) If there is an extreme corner S-shape distortion, adjust **DM07** to optimize it (this adjustment is usually unnecessary).
(15) If there is an extreme corner W-shape distortion, adjust **DM06** to optimize it (this adjustment is usually unnecessary).
(16) Apply the 1080/60i size adjustment signal to INPUT A.
(17) Ensure that the vertical amplitude of the image is **193mm**. If it is not, adjust **DM02** again.
(18) Adjust **DM03** so that the horizontal position of the image comes at the center of the CRT screen.
(19) Adjust the horizontal image amplitude with **DM01** to match the 95% line of the size adjustment signal onto the edge of the escutcheon.
(20) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 19 above (see Table 8).





Adjustment Step No.	Adjustment signal	Adjustment Data
1	1080/60i	DM
2	1080/50i	DQ
3	1080/24psF	DS
4	720/60p	DU
5	720/50p	DW

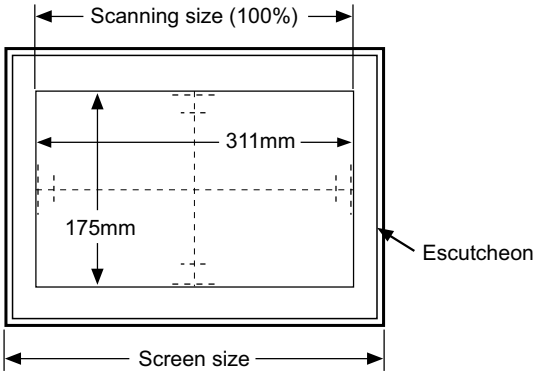
Table 8

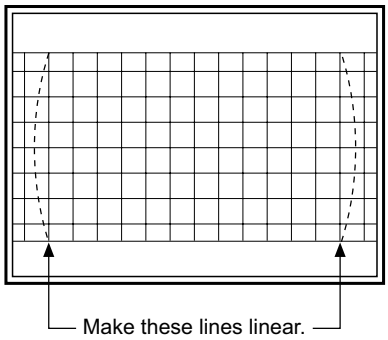
HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (HDTV UNDERSCAN MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

Note:

- **Perform the following adjustments after completing the Reference Mode (HDTV overscan mode) adjustments.**

(1) Apply the 1080/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Press the UNDER SCAN button on the front panel to set the scanning size to underscanning.
(4) Adjust **DN04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DN02** to set the vertical amplitude of the image to **175mm**.
(6) Apply the 1080/60i crosshatch signal to INPUT A.
(7) Adjust **DN11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(8) Adjust **DN12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(9) Ensure that the center position is not deviated. If it is, adjust **DN04** again.
(10) Adjust **DN11**, **DN12** and **DN04** repeatedly until the center position and vertical linearity are optimized.
(11) Adjust **DN09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DN08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(13) Adjust **DN10** to optimize the horizontal arc distortion.
(14) Adjust **DN05** so that the second vertical lines from the left and right edges are linear.
(15) If there is an extreme corner S-shape distortion, adjust **DN07** to optimize it (this adjustment is usually unnecessary).
(16) If there is an extreme corner W-shape distortion, adjust **DN06** to optimize it (this adjustment is usually unnecessary).
(17) Apply the 1080/60i size adjustment signal to INPUT A.
(18) Ensure that the vertical amplitude of the image is **175mm**. If it is not, adjust **DN02** again.
(19) Adjust **DN03** so that the horizontal position of the image comes at the center of the CRT screen.
(20) Adjust **DN01** to set the horizontal amplitude of the image to **311mm**.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 9).



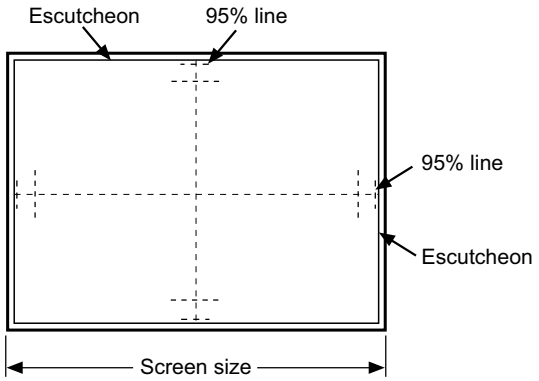


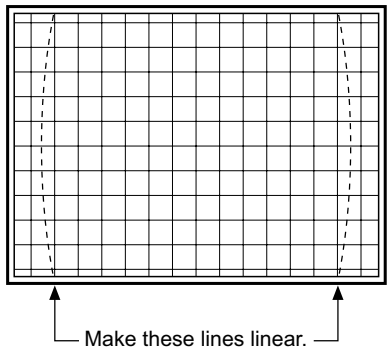
Adjustment Step No.	Adjustment signal	Adjustment Data
1	1080/60i	DN
2	1080/50i	DR
3	1080/24psF	DT
4	720/60p	DV
5	720/50p	DX

Table 9

HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (SDTV OVERSCAN 4:3 MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

(1) Apply the 480/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Adjust **DE04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(4) Adjust the vertical image amplitude with **DE02** to match the 95% line of the size adjustment signal onto the edge of the escutcheon.
(5) Apply the 480/60i crosshatch signal to INPUT A.
(6) Adjust **DE11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(7) Adjust **DE12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(8) Ensure that the center position is not deviated. If it is, adjust **DE04** again.
(9) Adjust **DE11**, **DE12** and **DE04** repeatedly until the center position and vertical linearity are optimized.
(10) Adjust **DE09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(11) Adjust **DE08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DE10** to optimize the horizontal arc distortion.
(13) Adjust **DE05** so that the second vertical lines from the left and right edges are linear.
(14) If there is an extreme corner S-shape distortion, adjust **DE07** to optimize it (this adjustment is usually unnecessary).
(15) If there is an extreme corner W-shape distortion, adjust **DE06** to optimize it (this adjustment is usually unnecessary).
(16) Apply the 480/60i size adjustment signal to INPUT A.
(17) Observe the vertical amplitude of the image. If it is dislocated, adjust **DE02** again.
(18) Adjust **DE03** so that the horizontal position of the image comes at the center of the CRT screen.
(19) Adjust the horizontal image amplitude with **DE01** to match the 95% line of the size adjustment signal onto the edge of the escutcheon.
(20) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 19 above (see Table 10).





Adjustment Step No.	Adjustment signal	Adjustment Data
1	480/60i	DE
2	480/60p	DI
3	576/50i	DG
4	576/50p	DK

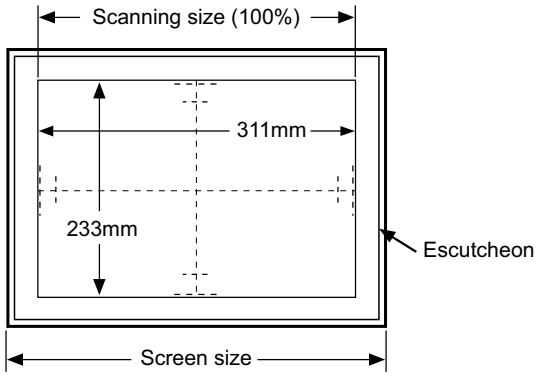
Table 10

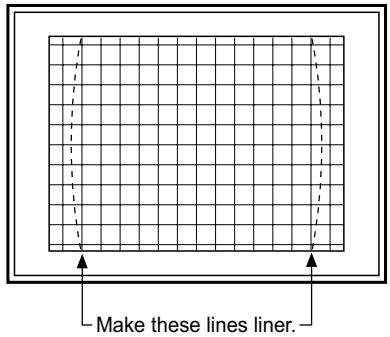
HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (SDTV UNDERSCAN 4:3 MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

Note:

- **Perform the following adjustments after completing the Reference Mode (SDTV overscan 4:3 mode) adjustments.**

(1) Apply the 480/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Press the UNDER SCAN button on the front panel to set the scanning size to underscanning.
(4) Adjust **DF04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DF02** to set the vertical amplitude of the image to **233mm**.
(6) Apply the 480/60i crosshatch signal to INPUT A.
(7) Adjust **DF11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(8) Adjust **DF12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(9) Ensure that the center position is not deviated. If it is, adjust **DF04** again.
(10) Adjust **DF11**, **DF12** and **DF04** repeatedly until the center position and vertical linearity are optimized.
(11) Adjust **DF09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DF08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(13) Adjust **DF10** to optimize the horizontal arc distortion.
(14) Adjust **DF05** so that the second vertical lines from the left and right edges are linear.
(15) If there is an extreme corner S-shape distortion, adjust **DF07** to optimize it (this adjustment is usually unnecessary).
(16) If there is an extreme corner W-shape distortion, adjust **DF06** to optimize it (this adjustment is usually unnecessary).
(17) Apply the 480/60i size adjustment signal to INPUT A.
(18) Ensure that the vertical amplitude of the image is **233mm**. If it is not, adjust **DF02** again.
(19) Adjust **DF03** so that the horizontal position of the image comes at the center of the CRT screen.
(20) Adjust **DF01** to set the horizontal amplitude of the image to **311mm**.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 11).





Adjustment Step No.	Adjustment signal	Adjustment Data
1	480/60i	DF
2	480/60p	DJ
3	576/50i	DH
4	576/50p	DL

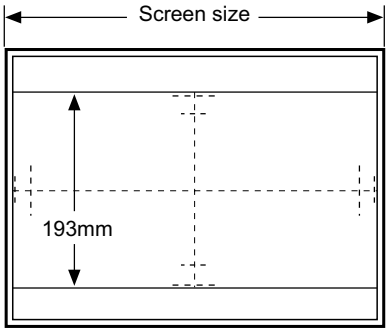
Table 11

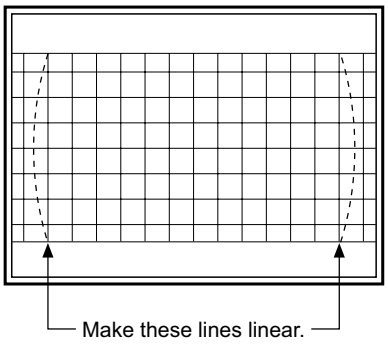
VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (SDTV OVERSCAN 16:9 MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**DY** (Vertical Size), DY** (Vertical Position), DY** (Side Pin Distortion), CE** (Corner Distortion (W)), CE** (Corner Distortion (S)), CE** (Parallelogram Distortion), CE** (Trapezoidal Distortion), CE** (Horizontal Arc Distortion) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Reference Mode (SDTV overscan 4:3 mode) adjustments.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the SDTV overscan 16:9 mode and the SDTV underscan 16:9 mode adjustments. This adjustment data needs to be adjusted in either mode.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the 480/60i and NTSC signal or 576/50i and PAL signal adjustments. This adjustment data needs to be adjusted with either signal.**

(1) Apply the 480/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Press the ASPECT button on the front panel to set the scanning size to 16:9 mode.
(3) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(4) Adjust **DY14** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DY13** to set the vertical amplitude of the image to **193mm**.
(6) Apply the 480/60i crosshatch signal to INPUT A.
(7) Adjust **CE08** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(8) Adjust **CE07** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(9) Adjust **CE09** to optimize the horizontal arc distortion.
(10) Adjust **DY15** so that the second vertical lines from the left and right edges are linear.
(11) If there is an extreme corner S-shape distortion, adjust **CE06** to optimize it (this adjustment is usually unnecessary).
(12) If there is an extreme corner W-shape distortion, adjust **CE05** to optimize it (this adjustment is usually unnecessary).
(13) Apply the 480/60i size adjustment signal to INPUT A.
(14) Ensure that the vertical amplitude of the image is **193mm**. If it is not, adjust **DY13** again.
(15) Adjust **DY14** so that the vertical position of the image comes at the center of the CRT screen.
(16) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 15 above (see Table 12).





Adjustment Step No.	Adjustment Signal	Adjustment Data							
		Vertical Position	Vertical size	Side Pin Distortion	Corner Distortion (W)	Corner Distortion (S)	Parallelogram Distortion	Trapezoidal Distortion	Horizontal Arc Distortion
1	480/60i	DY14	DY13	DY15	CE05	CE06	CE07	CE08	CE09
2	480/60p	DY26	DY25	DY27	CE15	CE16	CE17	CE18	CE19
3	576/50i	DY20	DY19	DY21	CE10	CE11	CE12	CE13	CE14
4	576/50p	DY32	DY31	DY33	CE20	CE21	CE22	CE23	CE24

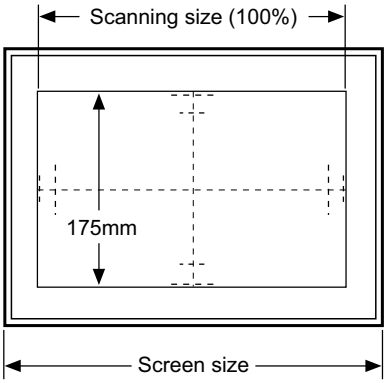
Table 12

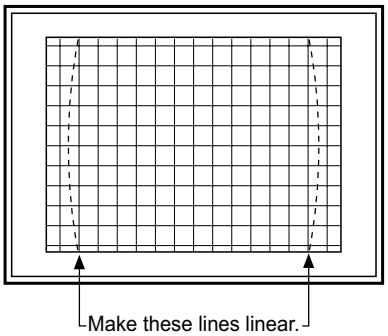
VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (SDTV UNDERSCAN 16:9 MODE)	
Measuring Instruments	**Signal generator (Size adjustment signal, Crosshatch signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**DY** (Vertical Size), DY** (Vertical Position), DY** (Side Pin Distortion), CE** (Corner Distortion (W)), CE** (Corner Distortion (S)), CE** (Parallelogram Distortion), CE** (Trapezoidal Distortion), CE** (Horizontal Arc Distortion) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Reference Mode (SDTV overscan 4:3 mode) and SDTV underscan 4:3 mode adjustments.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the SDTV overscan 16:9 mode and the SDTV underscan 16:9 mode adjustments. This adjustment data needs to be adjusted in either mode.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the 480/60i and NTSC signal or 576/50i and PAL signal adjustments. This adjustment data needs to be adjusted with either signal.**

(1) Apply the 480/60i size adjustment signal to INPUT A (Terminal Y on the Component/RGB Input Card).
(2) Press the ASPECT and UNDER SCAN buttons on the front panel to set the scanning size to underscanning for the 16:9 ratio.
(3) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(4) Adjust **DY17** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DY16** to set the vertical amplitude of the image to **175mm**.
(6) Apply the 480/60i crosshatch signal to INPUT A.
(7) Adjust **CE08** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(8) Adjust **CE07** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(9) Adjust **CE09** to optimize the horizontal arc distortion.
(10) Adjust **DY18** so that the second vertical lines from the left and right edges are linear.
(11) If there is an extreme corner S-shape distortion, adjust **CE06** to optimize it (this adjustment is usually unnecessary).
(12) If there is an extreme corner W-shape distortion, adjust **CE05** to optimize it (this adjustment is usually unnecessary).
(13) Apply the 480/60i size adjustment signal to INPUT A.
(14) Ensure that the vertical amplitude of the image is **175mm**. If it is not, adjust **DY16** again.
(15) Adjust **DY17** so that the vertical position of the image comes at the center of the CRT screen.
(16) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 15 above (see Table 13).



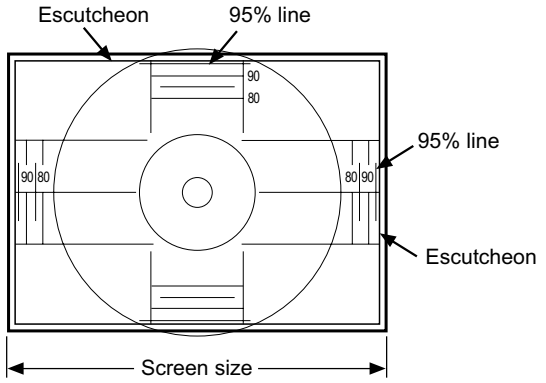


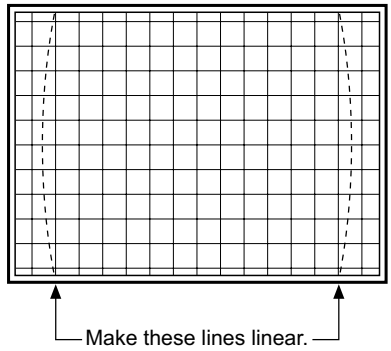
Adjustment Step No.	Adjustment Signal	Adjustment Data							
		Vertical Position	Vertical size	Side Pin Distortion	Corner Distortion (W)	Corner Distortion (S)	Parallelogram Distortion	Trapezoidal Distortion	Horizontal Arc Distortion
1	480/60i	DY17	DY16	DY18	CE05	CE06	CE07	CE08	CE09
2	480/60p	DY29	DY28	DY30	CE15	CE16	CE17	CE18	CE19
3	576/50i	DY23	DY22	DY24	CE10	CE11	CE12	CE13	CE14
4	576/50p	DY35	DY34	DY36	CE20	CE21	CE22	CE23	CE24

Table 13

HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (NTSC/PAL OVERSCAN 4:3 MODE)	
Measuring Instruments	**Signal generator (Mono-scope signal, Crosshatch signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

(1) Apply the NTSC mono-scope signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Adjust **DA04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(4) Adjust the vertical image amplitude with **DA02** to match the 95% line of the mono-scope signal onto the edge of the escutcheon.
(5) Apply the NTSC crosshatch signal to INPUT C.
(6) Adjust **DA11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(7) Adjust **DA12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(8) Ensure that the center position is not deviated. If it is, adjust **DA04** again.
(9) Adjust **DA11**, **DA12** and **DA04** repeatedly until the center position and vertical linearity are optimized.
(10) Adjust **DA09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(11) Adjust **DA08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DA10** to optimize the horizontal arc distortion.
(13) Adjust **DA05** so that the second vertical lines from the left and right edges are linear.
(14) If there is an extreme corner S-shape distortion, adjust **DA07** to optimize it (this adjustment is usually unnecessary).
(15) If there is an extreme corner W-shape distortion, adjust **DA06** to optimize it (this adjustment is usually unnecessary).
(16) Apply the NTSC mono-scope signal to INPUT C.
(17) Observe the vertical amplitude of the image. If it is dislocated, adjust **DA02** again.
(18) Adjust **DA03** so that the horizontal position of the image comes at the center of the CRT screen.
(19) Adjust the horizontal image amplitude with **DA01** to match the 95% line of the mono-scope signal onto the edge of the escutcheon.
(20) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 19 above (see Table 14).





Adjustment Step No.	Adjustment signal	Adjustment Data
1	NTSC	DA
2	PAL	DC

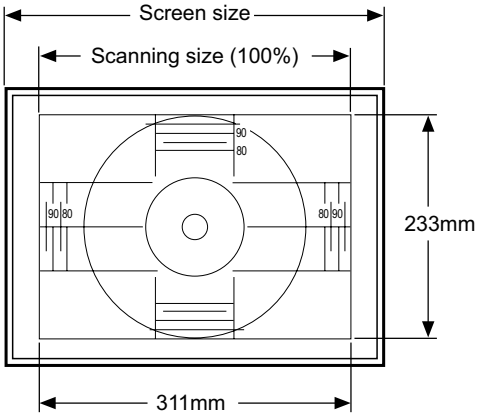
Table 14

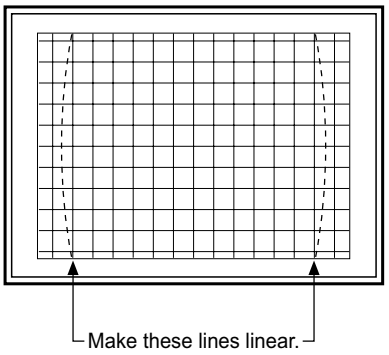
HORIZONTAL/VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (NTSC/PAL UNDERSCAN 4:3 MODE)	
Measuring Instruments	**Signal generator (Mono-scope signal, Crosshatch signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**D*01 (Horizontal Size), D*02 (Vertical Size), D*03 (Horizontal Position), D*04 (Vertical Position), D*05 (Side Pin Distortion), D*06 (Corner Distortion (W)), D*07 (Corner Distortion (S)), D*08 (Parallelogram Distortion), D*09 (Trapezoidal Distortion), D*10 (Horizontal Arc Distortion), D*11 (Vertical Linearity (S Correction)), D*12 (Vertical Linearity (C Correction)) [Service Menu]**

Note:

- **Perform the following adjustments after completing the Reference Mode (NTSL/PAL overscan 4:3 mode) adjustments.**

(1) Apply the NTSC mono-scope signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(3) Press the UNDER SCAN button on the front panel to set the scanning size to underscanning.
(4) Adjust **DB04** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DB02** to set the vertical amplitude of the image to **233mm**.
(6) Apply the NTSC crosshatch signal to INPUT C.
(7) Adjust **DB11** to set the sizes of the rectangles at the center of the image and those at the left and right ends to be identical.
(8) Adjust **DB12** to set the sizes of the rectangles at the center of the image and those at the top and bottom to be identical.
(9) Ensure that the center position is not deviated. If it is, adjust **DB04** again.
(10) Adjust **DB11**, **DB12** and **DB04** repeatedly until the center position and vertical linearity are optimized.
(11) Adjust **DB09** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(12) Adjust **DB08** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(13) Adjust **DB10** to optimize the horizontal arc distortion.
(14) Adjust **DB05** so that the second vertical lines from the left and right edges are linear.
(15) If there is an extreme corner S-shape distortion, adjust **DB07** to optimize it (this adjustment is usually unnecessary).
(16) If there is an extreme corner W-shape distortion, adjust **DB06** to optimize it (this adjustment is usually unnecessary).
(17) Apply the NTSC mono-scope signal to INPUT C.
(18) Ensure that the vertical amplitude of the image is **233mm**. If it is not, adjust **DB02** again.
(19) Adjust **DB03** so that the horizontal position of the image comes at the center of the CRT screen.
(20) Adjust **DB01** to set the horizontal amplitude of the image to **311mm**.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 15).





Adjustment Step No.	Adjustment signal	Adjustment Data
1	NTSC	DB
2	PAL	DD

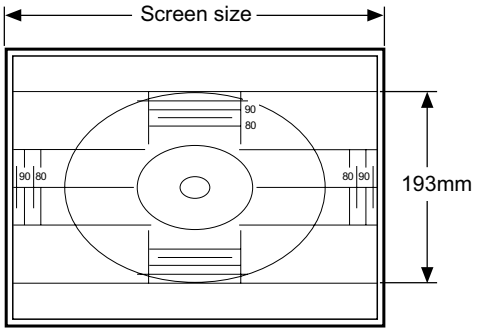
Table 15

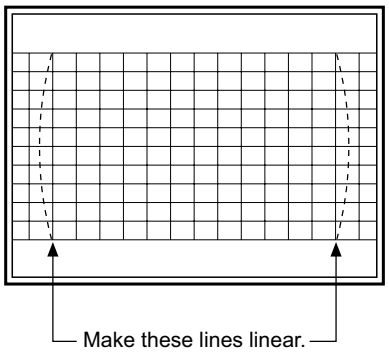
VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (NTSC/PAL OVERSCAN 16:9 MODE)	
Measuring Instruments	**Signal generator (Mono-scope signal, Crosshatch signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**DY** (Vertical Size), DY** (Vertical Position), DY** (Side Pin Distortion), CE** (Corner Distortion (W)), CE** (Corner Distortion (S)), CE** (Parallelogram Distortion), CE** (Trapezoidal Distortion), CE** (Horizontal Arc Distortion) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Reference Mode (NTSL/PAL overscan 4:3 mode) adjustment.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the NTSC/PAL overscan 16:9 mode and the NTSC/PAL underscan 16:9 mode adjustments. This adjustment data needs to be adjusted in either mode.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the 480/60i and NTSC signal or 576/50i and PAL signal adjustments. This adjustment data needs to be adjusted with either signal.**

(1) Apply the NTSC mono-scope signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Press the ASPECT button on the front panel to set the scanning size to 16:9 mode.
(3) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(4) Adjust **DY02** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DY01** to set the vertical amplitude of the image to **193mm**.
(6) Apply the NTSC crosshatch signal to INPUT C.
(7) Adjust **CE08** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(8) Adjust **CE07** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(9) Adjust **CE09** to optimize the horizontal arc distortion.
(10) Adjust **DY03** so that the second vertical lines from the left and right edges are linear.
(11) If there is an extreme corner S-shape distortion, adjust **CE06** to optimize it (this adjustment is usually unnecessary).
(12) If there is an extreme corner W-shape distortion, adjust **CE05** to optimize it (this adjustment is usually unnecessary).
(13) Apply the NTSC mono-scope signal to INPUT C.
(14) Ensure that the vertical amplitude of the image is **193mm**. If it is not, adjust **DY01** again.
(15) Adjust **DY02** so that the vertical position of the image comes at the center of the CRT screen.
(16) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 15 above (see Table 16).





Adjustment Step No.	Adjustment Signal	Adjustment Data							
		Vertical Position	Vertical size	Side Pin Distortion	Corner Distortion (W)	Corner Distortion (S)	Parallelogram Distortion	Trapezoidal Distortion	Horizontal Arc Distortion
1	NTSC	DY02	DY01	DY03	CE05	CE06	CE07	CE08	CE09
2	PAL	DY08	DY07	DY09	CE10	CE11	CE12	CE13	CE14

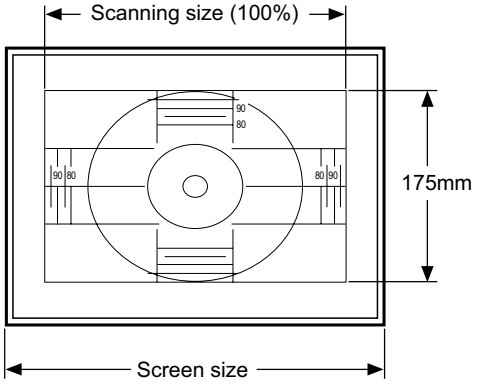
Table 16

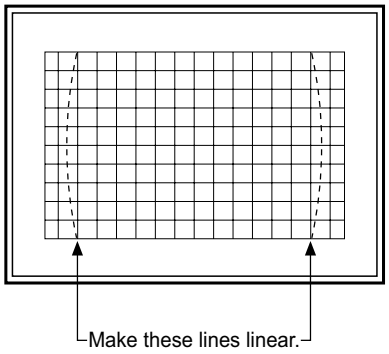
VERTICAL IMAGE POSITION, IMAGE AMPLITUDE AND IMAGE DISTORTION ADJUSTMENTS (NTSC/PAL UNDERSCAN 16:9 MODE)	
Measuring Instruments	**Signal generator (Mono-scope signal, Crosshatch signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**DY** (Vertical Size), DY** (Vertical Position), DY** (Side Pin Distortion), CE** (Corner Distortion (W)), CE** (Corner Distortion (S)), CE** (Parallelogram Distortion), CE** (Trapezoidal Distortion), CE** (Horizontal Arc Distortion) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Reference Mode (NTSL/PAL overscan 4:3 mode) and NTSC/PAL underscan 4:3 mode adjustments.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the NTSC/PAL overscan 16:9 mode and the NTSC/PAL underscan 16:9 mode adjustments. This adjustment data needs to be adjusted in either mode.**
- **The corner distortions (W) & (S), parallelogram distortion, trapezoidal distortion and horizontal arc distortion adjustment data for this adjustment are common to those in the 480/60i and NTSC signal or 576/50i and PAL signal adjustments. This adjustment data needs to be adjusted with either signal.**

(1) Apply the NTSC mono-scope signal to INPUT C (Terminal VIDEO1 on the NTSC/PAL Video Input Card).
(2) Press the ASPECT and UNDER SCAN buttons on the front panel to set the scanning size to underscanning for the 16:9 ratio.
(3) Set the CONTRAST and BRIGHT potentiometers on the front panel to the center click positions.
(4) Adjust **DY05** in the Service Menu to set the vertical position of the image at the center of the CRT screen.
(5) Adjust **DY04** to set the vertical amplitude of the image to **175mm**.
(6) Apply the NTSC crosshatch signal to INPUT C.
(7) Adjust **CE08** to optimize the trapezoidal distortion (observe the second vertical lines from the left and right edges as the reference).
(8) Adjust **CE07** to optimize the parallelogram distortion (observe the second vertical lines from the left and right edges as the reference).
(9) Adjust **CE09** to optimize the horizontal arc distortion.
(10) Adjust **DY06** so that the second vertical lines from the left and right edges are linear.
(11) If there is an extreme corner S-shape distortion, adjust **CE06** to optimize it (this adjustment is usually unnecessary).
(12) If there is an extreme corner W-shape distortion, adjust **CE05** to optimize it (this adjustment is usually unnecessary).
(13) Apply the NTSC mono-scope signal to INPUT C.
(14) Ensure that the vertical amplitude of the image is **175mm**. If it is not, adjust **DY04** again.
(15) Adjust **DY05** so that the vertical position of the image comes at the center of the CRT screen.
(16) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 15 above (see Table 17).





Adjustment Step No.	Adjustment Signal	Adjustment Data							
		Vertical Position	Vertical size	Side Pin Distortion	Corner Distortion (W)	Corner Distortion (S)	Parallelogram Distortion	Trapezoidal Distortion	Horizontal Arc Distortion
1	NTSC	DY05	DY04	DY06	CE05	CE06	CE07	CE08	CE09
2	PAL	DY11	DY10	DY12	CE10	CE11	CE12	CE13	CE14

Table 17

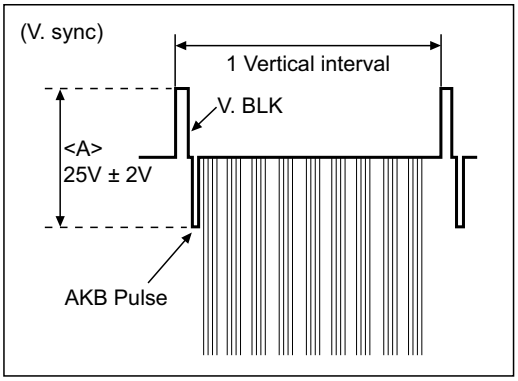
4.10.11 WHITE BALANCE ADJUSTMENTS

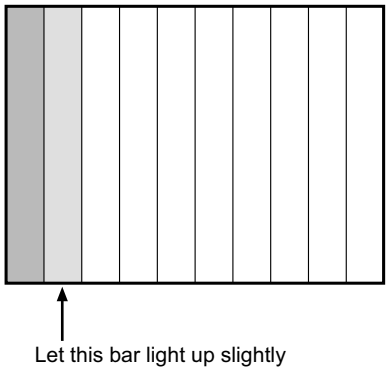
LOW-LIGHT WHITE BALANCE (REFERENCE VALUE) ADJUSTMENT	
Measuring Instruments	**Signal generator (Crosshatch signal, 10-step gray scale signal)** **Oscilloscope**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	**TP-47R, TP-47G, TP-47B [CRT SOCKET PWB]** **TP-GND [CRT SOCKET PWB]**
Adjustment Points	**SCREEN VR [Bottom potentiometer on high-voltage transformer]** **W*04 (Cut Off (R)), W*05 (Cut Off (G)), W*06 (Cut Off (B)) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the screen size adjustment.**
- **Set the COLOR TEMP./BAL. data in the Setup Menu to "00".**

(1) Apply the 1080/60i component crosshatch signals to INPUT A.
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Observe the AKB pulse waveforms of TP-47R, TP-47G, TP-47B and ensure that the voltage <A> of the smallest AKB Pulse color is **25V ± 2V**. If it is not, readjust it, using the **SCREEN VR**.
(5) Apply the 1080/60i component 10-step gray scale signal to INPUT A.
(6) Turn the BRIGHT potentiometer on the front panel gradually until the second gray step in the gray scale lights slightly. (Do not touch the SCREEN VR potentiometer.)
(7) Adjust **WW04**, **WW05** and **WW06** in the Service Menu so that the gray bars are not tinted. (Do not set the values of **WW04** to **WW06** no more than "**50**".)
(8) Write the data of **WW04** to **WW06** in **WX04** to **WX06** without any alteration. (Do not adjust the **WX** items.)





COMPONENT SIGNAL WHITE BALANCE (HIGH: D9300) ADJUSTMENTS	
Measuring Instruments	**Signal generator (10-step gray scale signal)** **Color temperature meter**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**W*01 (Drive (R)), W*03 (Drive (B)), W*04 (Cut Off (R)),** **W*05 (Cut Off (G)), W*06 (Cut Off (B)) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Low-Light White Balance (Reference Value) Adjustment.**
- **Set the COLOR TEMP./BAL. data in the Setup Menu to "00".**
- **The values adjusted with WW become the reference values for the following adjustment. When this data is changed, it is required to re-adjust the white balance data of all of the adjustment signals (Component, NTSC and PAL). When re-adjusting the 1080/60i signal, use the WI.**

(1) Apply the 1080/60i component 10-step gray scale signal to INPUT A.
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **WW01** and **WW03** in the Service Menu using the color temperature meter so that the color temperature is set as shown below.
(Do not touch **WW02**.)

Color temperature : HIGH (D9300). x = 0.283, y = 0.297 (Reference value)

(5) Ensure that the white balance tracking is correct from the gray scale steps with lower color temperatures to those with higher color temperatures. If the white balance tracking is deviated in darker steps, adjust **WW04** to **WW06** to correct it.
(Do not set the values of **WW04** to **WW06** no more than "**50**".)
(6) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 5 above (see Table 18).

Adjustment Signal	Function	Adjustment Data		
		R	G	B
COMMON	Drive	WW01	–	WW03
	Cut off	WW04	WW05	WW06
1080/60i	Drive	WI01	–	WI03
	Cut off	WI04	WI05	WI06
1080/50i	Drive	WM01	–	WM03
	Cut off	WM04	WM05	WM06
1080/24psF	Drive	WO01	–	WO03
	Cut off	WO04	WO05	WO06
720/60p	Drive	WQ01	–	WQ03
	Cut off	WQ04	WQ05	WQ06
720/50p	Drive	WS01	–	WS03
	Cut off	WS04	WS05	WS06
480/60i (Common to 576/50i)	Drive	WE01	–	WE03
	Cut off	WE04	WE05	WE06
480/60p (Common to 576/50p)	Drive	WG01	–	WG03
	Cut off	WG04	WG05	WG06

Table 18

COMPONENT SIGNAL WHITE BALANCE (LOW: D65) ADJUSTMENTS	
Measuring Instruments	**Signal generator (10-step gray scale signal)** **Color temperature meter**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**W*01 (Drive (R)), W*03 (Drive (B)), W*04 (Cut Off (R)),** **W*05 (Cut Off (G)), W*06 (Cut Off (B)) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the Low-Light White Balance (Reference Value) Adjustment.**
- **Set the COLOR TEMP./BAL. data in the Setup Menu to "00".**
- **The values adjusted with WX become the reference values for the following adjustment. When this data is changed, it is required to re-adjust the white balance data of all of the adjustment signals (Component, NTSC and PAL). When re-adjusting the 1080/60i signal, use the WJ.**

(1) Apply the 1080/60i component 10-step gray scale signal to INPUT A.
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **WX01** and **WX03** in the Service Menu using the color temperature meter so that the color temperature is set as shown below.
(Do not touch **WX02**.)

Color temperature: LOW (D65). x = 0.313, y = 0.329 (Reference value)

(5) Ensure that the white balance tracking is correct from the gray scale steps with lower color temperatures to those with higher color temperatures. If the white balance tracking is deviated in darker steps, adjust **WX04** to **WX06** to correct it.
(Do not set the values of **WX04** to **WX06** no more than "**50**".)
(6) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 5 above (see Table 19).

Adjustment Signal	Function	Adjustment Data		
		R	G	B
COMMON	Drive	WX01	–	WX03
	Cut off	WX04	WX05	WX06
1080/60i	Drive	WJ01	–	WJ03
	Cut off	WJ04	WJ05	WJ06
1080/50i	Drive	WN01	–	WN03
	Cut off	WN04	WN05	WN06
1080/24psF	Drive	WP01	–	WP03
	Cut off	WP04	WP05	WP06
720/60p	Drive	WR01	–	WR03
	Cut off	WR04	WR05	WR06
720/50p	Drive	WT01	–	WT03
	Cut off	WT04	WT05	WT06
480/60i (Common to 576/50i)	Drive	WF01	–	WF03
	Cut off	WF04	WF05	WF06
480/60p (Common to 576/50p)	Drive	WH01	–	WH03
	Cut off	WH04	WH05	WH06

Table 19

NTSC/PAL SIGNAL WHITE BALANCE (HIGH: D9300, LOW: D65) ADJUSTMENTS	
Measuring Instruments	**Signal generator (10-step gray scale signal)** **Color temperature meter**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**W*01 (Drive (R)), W*03 (Drive (B)), W*04 (Cut Off (R)),** **W*05 (Cut Off (G)), W*06 (Cut Off (B)) [Service Menu]**

Notes:

- **Perform the following adjustments after completing the 1080/60i White Balance (High: D9300, Low: D65) Adjustments.**
- **Set the COLOR TEMP./BAL. data in the Setup Menu to "00".**
- **The values adjusted with WW (see the description of the Component Signal White Balance (High: D9300) adjustment) become the reference values for the white balance (high: D9300) adjustment. When this data is changed, it is required to re-adjust the white balance (high: D9300) data of all of the adjustment signals (Component, NTSC and PAL).**
- **The values adjusted with WX (see the description of the Component Signal White Balance (Low: D65) adjustment) become the reference values for the white balance (low: D65) adjustment. When this data is changed, it is required to re-adjust the white balance (low: D65) data of all of the adjustment signals (Component, NTSC and PAL).**

<HIGH: D9300>

(1) Apply the NTSC 10-step gray scale signal to INPUT C (Terminal VIDEO1 of the NTSC/PAL Video Input Card).
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **WA01** and **WA03** in the Service Menu using the color temperature meter so that the color temperature is set as shown below.
(Do not touch **WA02**.)
Color temperature : HIGH (D9300). x = 0.283, y = 0.297 (Reference value)
(5) Ensure that the white balance tracking is correct from the gray scale steps with lower color temperatures to those with higher color temperatures. If the white balance tracking is deviated in darker steps, adjust **WA04** to **WA06** to correct it.
(Do not set the values of **WA04** to **WA06** no more than "**50**".)

<LOW: D65>

(6) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(7) Adjust **WB01** and **WB03** in the Service Menu using the color temperature meter so that the color temperature is set as shown below.
(Do not touch WB02.)
Color temperature : LOW (D65). x = 0.313, y = 0.329 (Reference value)
(8) Ensure that the white balance tracking is correct from the gray scale steps with lower color temperatures to those with higher color temperatures. If the white balance tracking is deviated in darker steps, adjust **WB04** to **WB06** to correct it.
(Do not set the values of **WB04** to **WB06** no more than "**50**".)
(9) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 8 above (see Table 20).

Adjustment Signal	Function	Adjustment Data		
		R	G	B
NTSC (Common to VIDEO and Y/C) [HIGH : D9300]	Drive	WA01	–	WA03
	Cut off	WA04	WA05	WA06
NTSC (Common to VIDEO and Y/C) [LOW : D65]	Drive	WB01	–	WB03
	Cut off	WB04	WB05	WB06
PAL (Common to VIDEO and Y/C) [HIGH : D9300]	Drive	WC01	–	WC03
	Cut off	WC04	WC05	WC06
PAL (Common to VIDEO and Y/C) [LOW : D65]	Drive	WD01	–	WD03
	Cut off	WD04	WD05	WD06

Table 20

4.10.12 BRIGHTNESS ADJUSTMENTS

BRIGHTNESS ADJUSTMENTS (HDTV)	
Measuring Instruments	**Signal generator (Gray scale signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**S*02 (Overscan Bright High), S*06 (Overscan Bright Low), SP** (Underscan Bright High/Low) [Service Menu]**

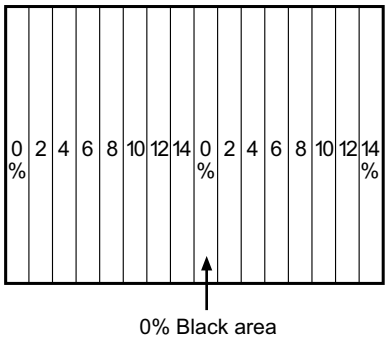
Notes:

- **Perform the following adjustments after completing the Contrast and White Balance adjustments.**
- **Set the PICTURE SUB ADJ. data in the Setup Menu to "00".**
- **The value adjusted at the SR adjustment becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI.**
- **When overscan data of a signal is changed, it is required to re-adjust the underscan data of the same adjustment signal.**
- **After completing the brightness adjustments, make sure that the Low-Light is not deviated. If it is, it is required to perform the Low-Light adjustment again.**

– Standard value (SO) adjustment –

<White Balance HIGH: D9300>

(1) Apply the 1080/60i component gray scale signal to INPUT A.
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **SR02** in the Service Menu so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)



<White Balance LOW: D65>

(5) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(6) Adjust **SR06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)

– Other signals adjustments –

<White Balance HIGH: D9300>

(7) Apply the 1080/60i component gray scale signal to INPUT A.
(8) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(9) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(10) Adjust **SI02** in the Service Menu so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(11) Set the UNDER SCAN button on the front panel to ON so that the scanning size is underscanning.
(12) Adjust **SP26** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(13) Set the UNDER SCAN button on the front panel to OFF.

<White Balance LOW: D65>

(14) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(15) Adjust **SI06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(16) Set the UNDER SCAN button on the front panel to ON so that the scanning size is underscanning.
(17) Adjust **SP27** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(18) Set the UNDER SCAN button on the front panel to OFF.
(19) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 7 to 18 above (see Table 21).

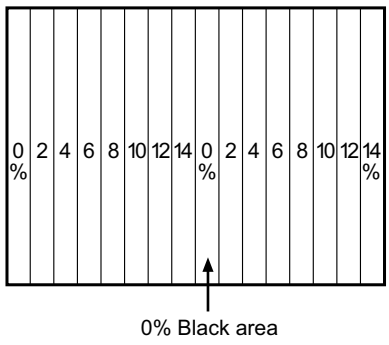
Adjustment Signal	White Balance HIGH		White Balance LOW	
	Overscan	Underscan	Overscan	Underscan
COMMON	SR02	–	SR06	–
1080/60i	SI02	SP26	SI06	SP27
1080/50i	SK02	SP32	SK06	SP33
1080/24psF	SL02	SP35	SL06	SP36
720/60p	SM02	SP38	SM06	SP39
720/50p	SN02	SP41	SN06	SP42

Table 21

BRIGHTNESS ADJUSTMENTS (SDTV)	
Measuring Instruments	**Signal generator (Gray scale signal)**
Card (Slot)	**Component/RGB Input Card (Slot 1)**
Test Points	
Adjustment Points	**S*02 (4:3 Overscan Bright High), S*06 (4:3 Overscan Bright Low), SP** (4:3 Underscan Bright High/Low), SQ** (16:9 Overscan/Underscan Bright High/Low) [Service Menu]**

Notes:

- **Perform the following adjustment after completing the 1080/60i Brightness Adjustment.**
- **Set the PICTURE SUB ADJ. data in the Setup Menu to "00".**
- **The SR value (see the description for the HDTV Brightness adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL). When re-adjusting the 1080/60i signal, use the SI.**
- **When overscan data of a signal is changed, it is required to re-adjust the underscan data of the same adjustment signal.**
- **When the 4:3 data of a signal is changed, it is required to re-adjust the 16:9 data of the same adjustment signal.**
- **After completing the brightness adjustments, make sure that the Low-Light is not deviated. If it is, it is required to perform the Low-Light adjustment again.**



<White Balance HIGH: D9300>

(1) Apply the 480/60i component gray scale signal to INPUT A.
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **SE02** in the Service Menu so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(5) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(6) Adjust **SQ26** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(7) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(8) Adjust **SP14** so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(9) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(10) Adjust **SQ29** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(11) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.

<White Balance LOW: D65>

(12) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(13) Adjust **SE06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(14) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(15) Adjust **SQ27** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(16) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(17) Adjust **SP15** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(18) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(19) Adjust **SQ30** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(20) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 22).

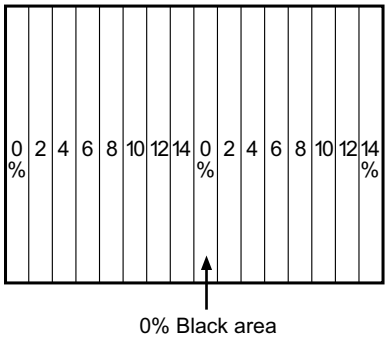
Adjustment Signal	White Balance HIGH				White Balance LOW			
	Overscan		Underscan		Overscan		Underscan	
	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9
480/60i	SE02	SQ26	SP14	SQ29	SE06	SQ27	SP15	SQ30
576/50i	SF02	SQ32	SP17	SQ35	SF06	SQ33	SP18	SQ36
480/60p	SG02	SQ38	SP20	SQ41	SG06	SQ39	SP21	SQ42
576/50p	SH02	SQ44	SP23	SQ47	SH06	SQ45	SP24	SQ48

Table 22

BRIGHTNESS ADJUSTMENTS (NTSC/PAL VIDEO)	
Measuring Instruments	**Signal generator (Gray scale signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**S*02 (4:3 Overscan Bright High), S*06 (4:3 Overscan Bright Low), SP** (4:3 Underscan Bright High/Low), SQ** (16:9 Overscan/Underscan Bright High/Low) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i Brightness Adjustment.**
- **Set the PICTURE SUB ADJ. data in the Setup Menu to "00".**
- **The SR value (see the description for the HDTV Brightness adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL).**
  When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)
- **When overscan data of a signal is changed, it is required to re-adjust the underscan data of the same adjustment signal.**
- **When the 4:3 data of a signal is changed, it is required to re-adjust the 16:9 data of the same adjustment signal.**
- **After completing the brightness adjustments, make sure that the Low-Light is not deviated. If it is, it is required to perform the Low-Light adjustment again.**



<White Balance HIGH: D9300>

(1) Apply the NTSC gray scale signal to INPUT C (Terminal VIDEO1 of the NTSC/PAL Video Input Card).
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **SA02** in the Service Menu so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(5) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(6) Adjust **SQ02** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(7) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(8) Adjust **SP02** so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(9) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(10) Adjust **SQ05** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(11) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.

<White Balance LOW: D65>

(12) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(13) Adjust **SA06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(14) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(15) Adjust **SQ03** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(16) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(17) Adjust **SP03** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(18) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(19) Adjust **SQ06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(20) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 23).

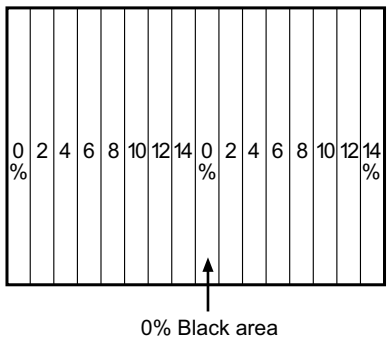
Adjustment Signal	White Balance HIGH				White Balance LOW			
	Overscan		Underscan		Overscan		Underscan	
	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9
NTSC(VIDEO)	SA02	SQ02	SP02	SQ05	SA06	SQ03	SP03	SQ06
PAL(VIDEO)	SC02	SQ14	SP08	SQ17	SC06	SQ15	SP09	SQ18

Table 23

BRIGHTNESS ADJUSTMENTS (NTSC/PAL Y/C)	
Measuring Instruments	**Signal generator (Gray scale signal)**
Card (Slot)	**NTSC/PAL Video Input Card (Slot 2)**
Test Points	
Adjustment Points	**S*02 (4:3 Overscan Bright High), S*06 (4:3 Overscan Bright Low), SP** (4:3 Underscan Bright High/Low), SQ** (16:9 Overscan/Underscan Bright High/Low) [Service Menu]**

Notes:

- **Ensure that the output waveforms from the NTSC/PAL Video Input Cards are normal before proceeding to the following adjustments.**
- **Perform the following adjustments after completing the 1080/60i Brightness Adjustment.**
- **Set the PICTURE SUB ADJ. data in the Setup Menu to "00".**
- **The SR value (see the description for the HDTV Brightness adjustment) becomes the reference value for the following adjustments. When this data is changed, it is required to re-adjust the data of all of the adjustment signals (HDTV, SDTV and NTSC/PAL).**
  When re-adjusting the 1080/60i signal, use the SI. (For the adjustment of the 1080/60i signal, use the Component/RGB Input Card.)
- **When overscan data of a signal is changed, it is required to re-adjust the underscan data of the same adjustment signal.**
- **When the 4:3 data of a signal is changed, it is required to re-adjust the 16:9 data of the same adjustment signal.**
- **After completing the brightness adjustments, make sure that the Low-Light is not deviated. If it is, it is required to perform the Low-Light adjustment again.**



<White Balance HIGH: D9300>

(1) Apply the NTSC gray scale signal to INPUT D (Terminal Y/C of the NTSC/PAL Video Input Card).
(2) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to HIGH.
(3) Set the PHASE, CHROMA, BRIGHT and CONTRAST potentiometers on the front panel to the center click positions.
(4) Adjust **SB02** in the Service Menu so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(5) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(6) Adjust **SQ08** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(7) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(8) Adjust **SP05** so that the 0% black area in the gray scale signal lights up slightly. (Be sure to avoid degradation of the black color.)
(9) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(10) Adjust **SQ11** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(11) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.

<White Balance LOW: D65>

(12) Set "COLOR TEMP." of COLOR TEMP./BAL. in the Setup Menu to LOW.
(13) Adjust **SB06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(14) Set the ASPECT button on the front panel to ON so that the scanning size is 16:9.
(15) Adjust **SQ09** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(16) Set the ASPECT button on the front panel to OFF and the UNDER SCAN button to ON to set the scanning size to underscanning for the 4:3 ratio.
(17) Adjust **SP06** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(18) Set the ASPECT button on the front panel to ON to set the scanning size to underscanning for the 16:9 ratio.
(19) Adjust **SQ12** so that the 0% black area in the gray scale signal lights slightly. (Be sure to avoid degradation of the black color.)
(20) Set the ASPECT and UNDER SCAN buttons on the front panel to OFF.
(21) Vary the adjustment signal and adjustment data, and re-perform adjustments in steps 1 to 20 above (see Table 24).

Adjustment Signal	White Balance HIGH				White Balance LOW			
	Overscan		Underscan		Overscan		Underscan	
	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9	4 : 3	16 : 9
NTSC(Y/C)	SB02	SQ08	SP05	SQ11	SB06	SQ09	SP06	SQ12
PAL(Y/C)	SD02	SQ20	SP11	SQ23	SD06	SQ21	SP12	SQ24

Table 24

SECTION 5
TROUBLE SHOOTING

5.1 SELF DIAGNOSIS

The unit incorporates a self-diagnosis function and is capable of indicating the absence of raster by blinking on the front panel LEDs and the on-screen display.

5.1.1 DISPLAYING THE SELF DIAGNOSIS INDICATIONS

(1) LED indication: When raster is absent, the six LEDs of INPUT SELECT A to F on the front panel blink to indicate this condition.
(2) On-screen display: The self diagnosis results can be displayed when the unit is on.

5.1.2 LED INDICATION

(1) Operation during an LED indication:
The main microcomputer detects any abnormalities in communication on the I^2C and causes the LEDs to blink.
At the same time, the unit is turned off to protect it but the LEDs keep on blinking.
At this time, the main microcomputer does not accept commands except for the POWER switch on the front panel.

(2) How to cancel the LED blinking:
Press the POWER switch on the front panel to turn the unit ON again.

(3) Types of LED indications

LED INDICATION TYPE	ON-SCREEN DISPLAY	DIAGNOSIS RESULT	MALFUNCTIONING CIRCUIT
INPUT A blinking at 0.5-second intervals	I^2C-0 DEFLECTION BUS	Communication error in the signal buses (SCL0, SDA0) of I^2C	• SIGNAL PWB ASS'Y IC801 • MAIN PWB ASS'Y IC510 • MOTHER PWB ASS'Y IC103 • REMOTE PWB ASS'Y IC102, IC103
INPUT B blinking at 0.5-second intervals	I^2C-1 SIGNAL BUS	Communication error in the signal buses (SCL1, SDA1) of I^2C	• SIGNAL PWB ASS'Y IC104, IC601, IC801 • FRONT CONTROL PWB ASS'Y IC101
INPUT C blinking at 0.5-second intervals	I^2C ROM BUS	Communication error in the ROM buses (SCL2, SDA2) of I^2C	• SIGNAL PWB ASS'Y IC801, IC805 • SUB DEF MODULE PWB ASS'Y IC001
INPUT D blinking at 0.5-second intervals	X-RAY	X-rays detected	• SIGNAL PWB ASS'Y IC801 • HV CONTROL MODULE PWB ASS'Y IC503
INPUT E blinking at 0.5-second intervals	OCP	Overcurrent detected	• SIGNAL PWB ASS'Y IC801 • MAIN PWB ASS'Y
INPUT F blinking at 0.5-second intervals	VOFF	Neck-break prevention detected	• SIGNAL PWB ASS'Y IC801 • SUB DEF MODULE PWB ASS'Y IC005

5.1.3 ON-SCREEN DISPLAY (SELF DIAGNOSIS DISPLAY MODE)

(1) How to enter the self diagnosis display mode:

Press a key on the front panel to display the service menu and select "**DIAGNOSIS**".

(See "Basic Operations of Service Menu" on page 1-17.)

(2) How to clear the trouble history in the self diagnosis mode:

In the DIAGNOSIS MENU as shown on the high, select "**CLEAR**".

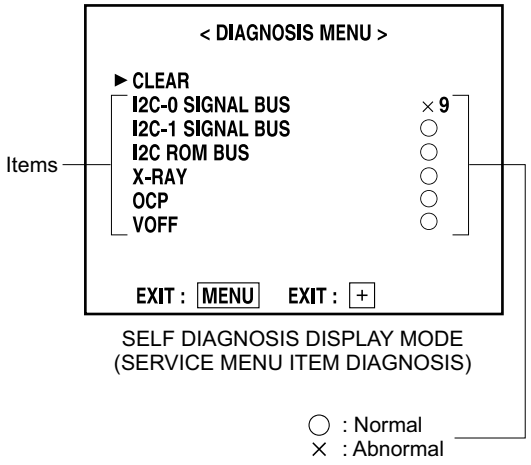
A new screen appears. Press the VOL + (▶) on the front panel to select "**YES**".

This clears the trouble history in the self diagnosis mode and the symbols displayed to the right of all of the items become " ○ ".

(3) Trouble history

The trouble history of each item is counted up to 9. The figure is held in the memory until the trouble history is cleared.

As a result, the displayed trouble history count remains 9 even if it actually exceeds 9.

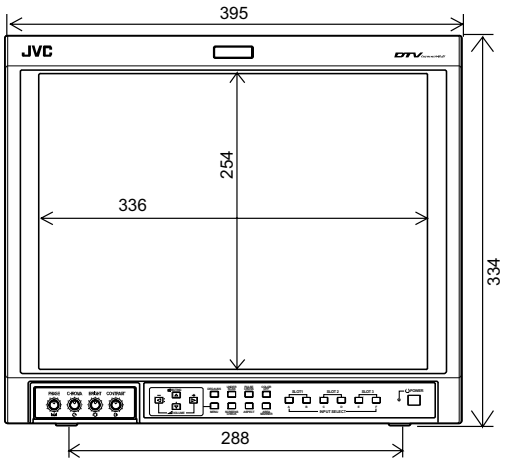


SELF DIAGNOSIS DISPLAY MODE
(SERVICE MENU ITEM DIAGNOSIS)

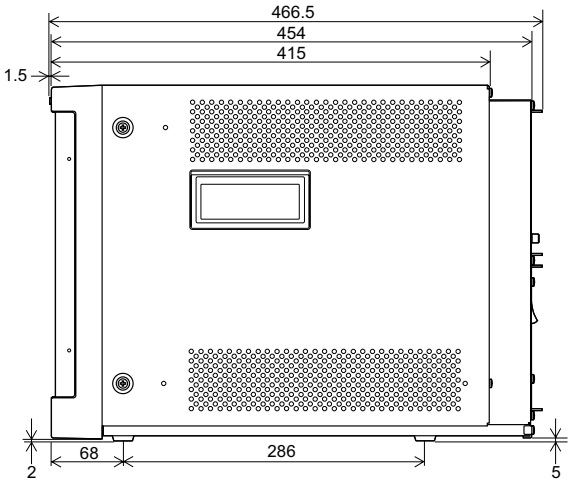
DIMENSIONS

Unit : mm

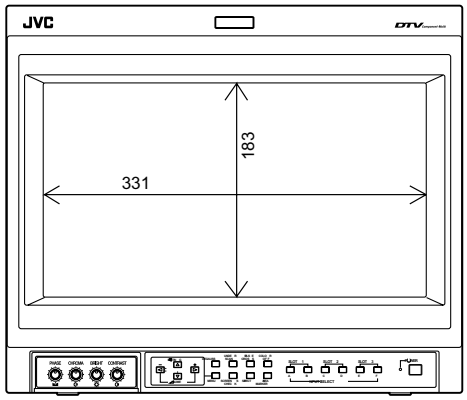
< Front View >



< Side View >



<Front View with the wide mask attached>



JVC
VICTOR COMPANY OF JAPAN, LIMITED
AV & Multimedia Company 12,3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa 221-8528, Japan
(No. 52152)
Printed in Japan
WPC

DT-V1710CG/U
DT-V1710CG/E STANDARD CIRCUIT DIAGRAMS

NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Colour bar signal (1080/60i)
(2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H ⇒ 20µs/div
: V ⇒ 5ms/div
: Others ⇒ Sweeping time is specified
(5) Voltage values : All DC voltage values

NOTE:

Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

• In the PW board : R1209 → R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

• Resistance value

No unit	: [Ω]
k	: [kΩ]
M	: [MΩ]

• Rated allowable power

No indication	: 1/10 [W]
Others	: As specified

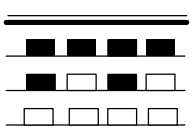
• Type

No indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3) Coils

No unit	: [µH]
Others	: As specified

(4) Power Supply



: B1
: B2(12V)
: 9V
: 5V

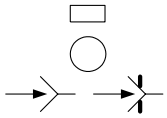
NOTE:

Respective voltage values are indicated

(5) Test point

: Test point
: Only test point display

(6) Connecting method



: Connector
: Wrapping or soldering
: Receptacle

(7) Ground symbol

⊥ : LIVE side ground
⏚ : ISOLATED(NEUTRAL) side ground
⏚ : EARTH ground
▽ : DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND at the same time with a measuring apparatus (oscilloscope, etc.). If the above precaution is not respected, a fuse or any parts will be broken.

NOTE:

- **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**
- **Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.**
  When ordering parts, please use the numbers that appear in the Parts List.

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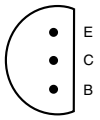
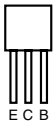
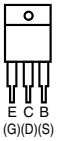
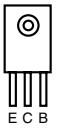
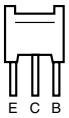
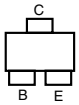
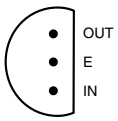
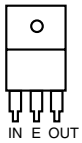
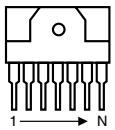
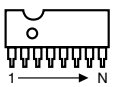
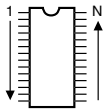
SEMICONDUCTOR SHAPES

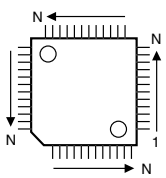
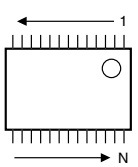
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

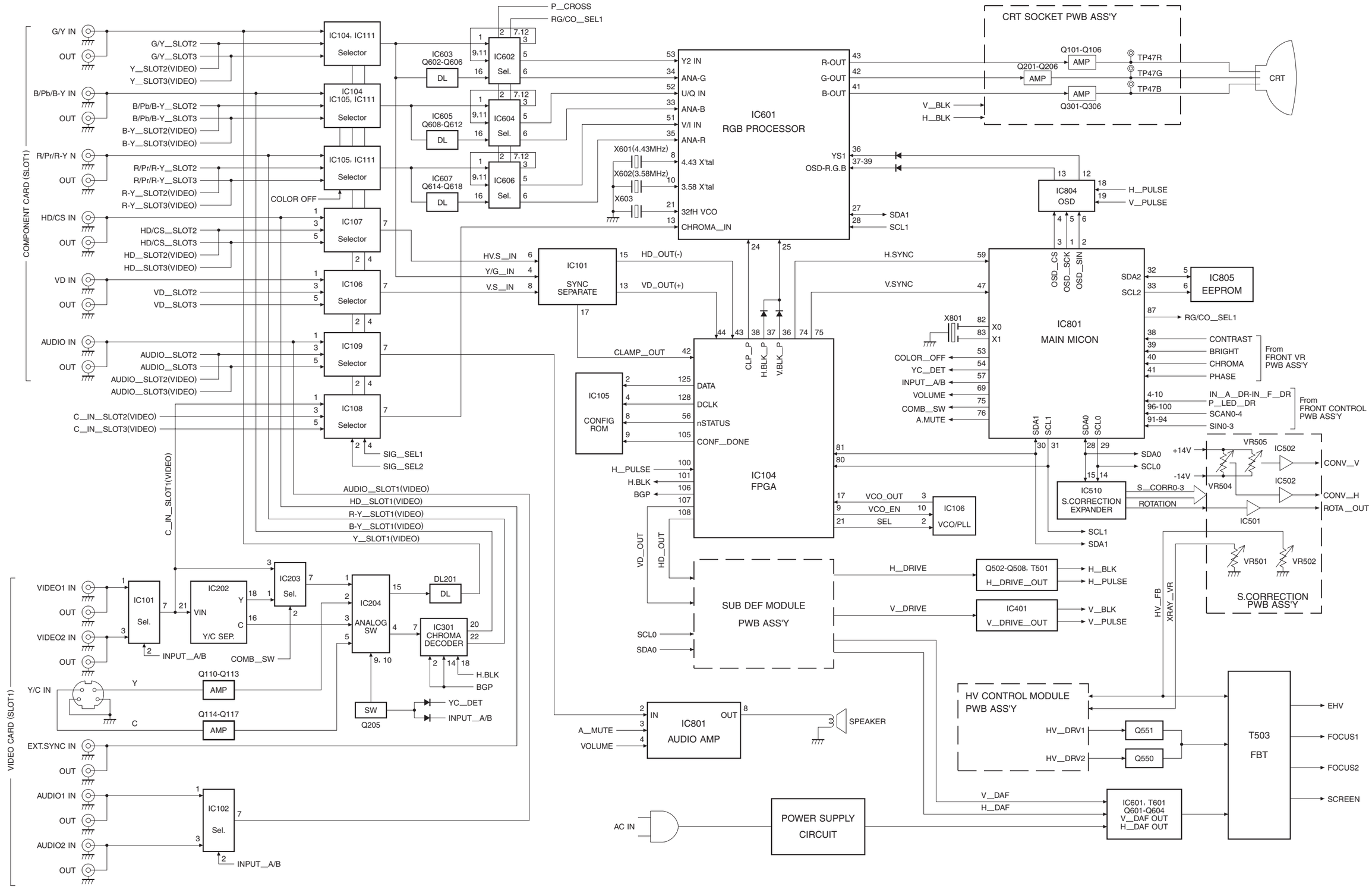
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

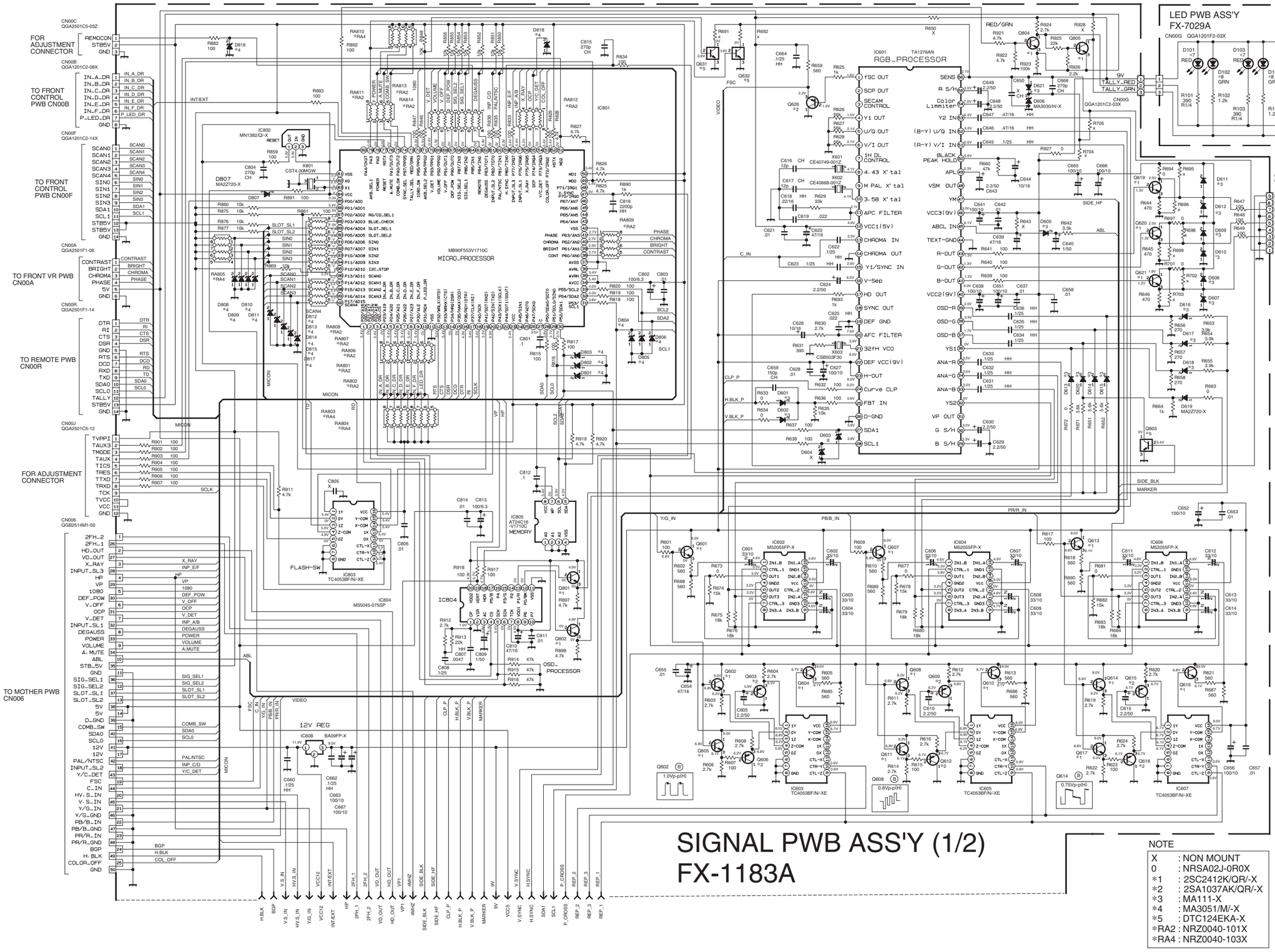
TOP VIEW		
		

BLOCK DIAGRAM

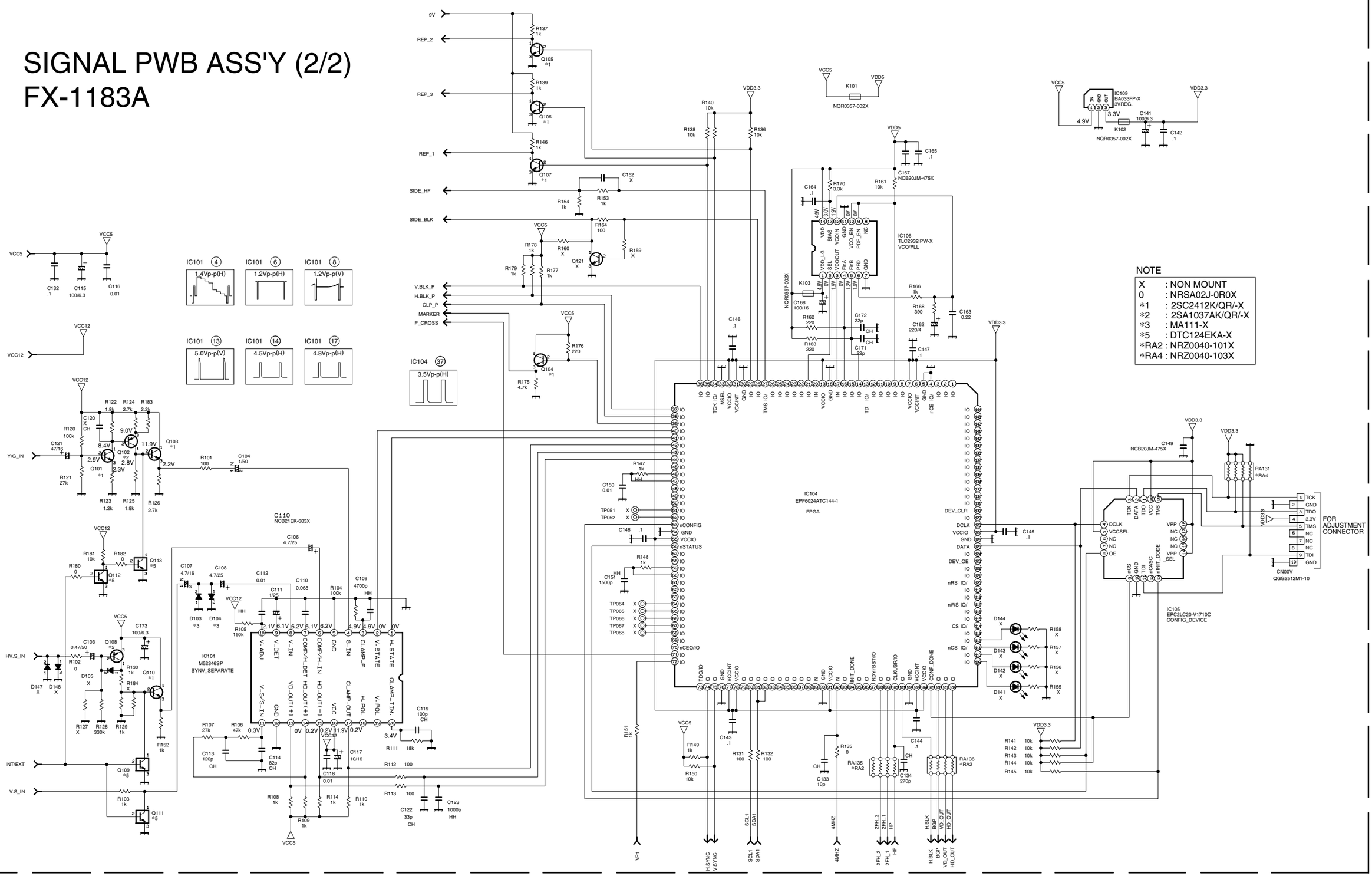


CIRCUIT DIAGRAMS

SIGNAL PWB (1/2) AND LED PWB CIRCUIT DIAGRAMS



SIGNAL PWB ASS'Y (2/2)
FX-1183A

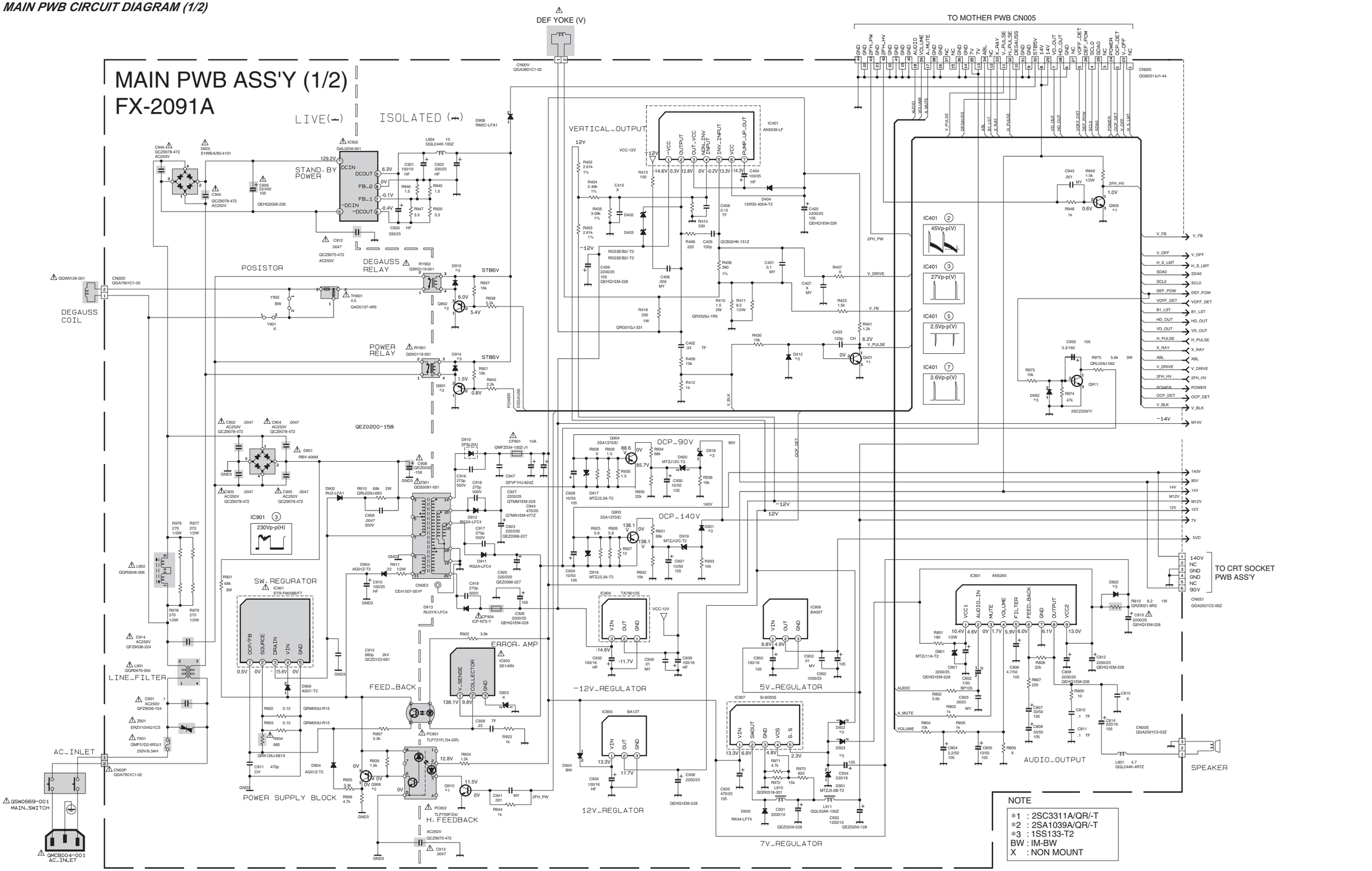


NOTE

X	: NON MOUNT
0	: NRSA02J-0R0X
*1	: 2SC2412K/QR/-X
*2	: 2SA1037AK/QR/-X
*3	: MA111-X
*5	: DTC124EKA-X
*RA2	: NRZ0040-101X
*RA4	: NRZ0040-103X

MAIN PWB CIRCUIT DIAGRAM (1/2)

MAIN PWB ASS'Y (1/2)
FX-2091A

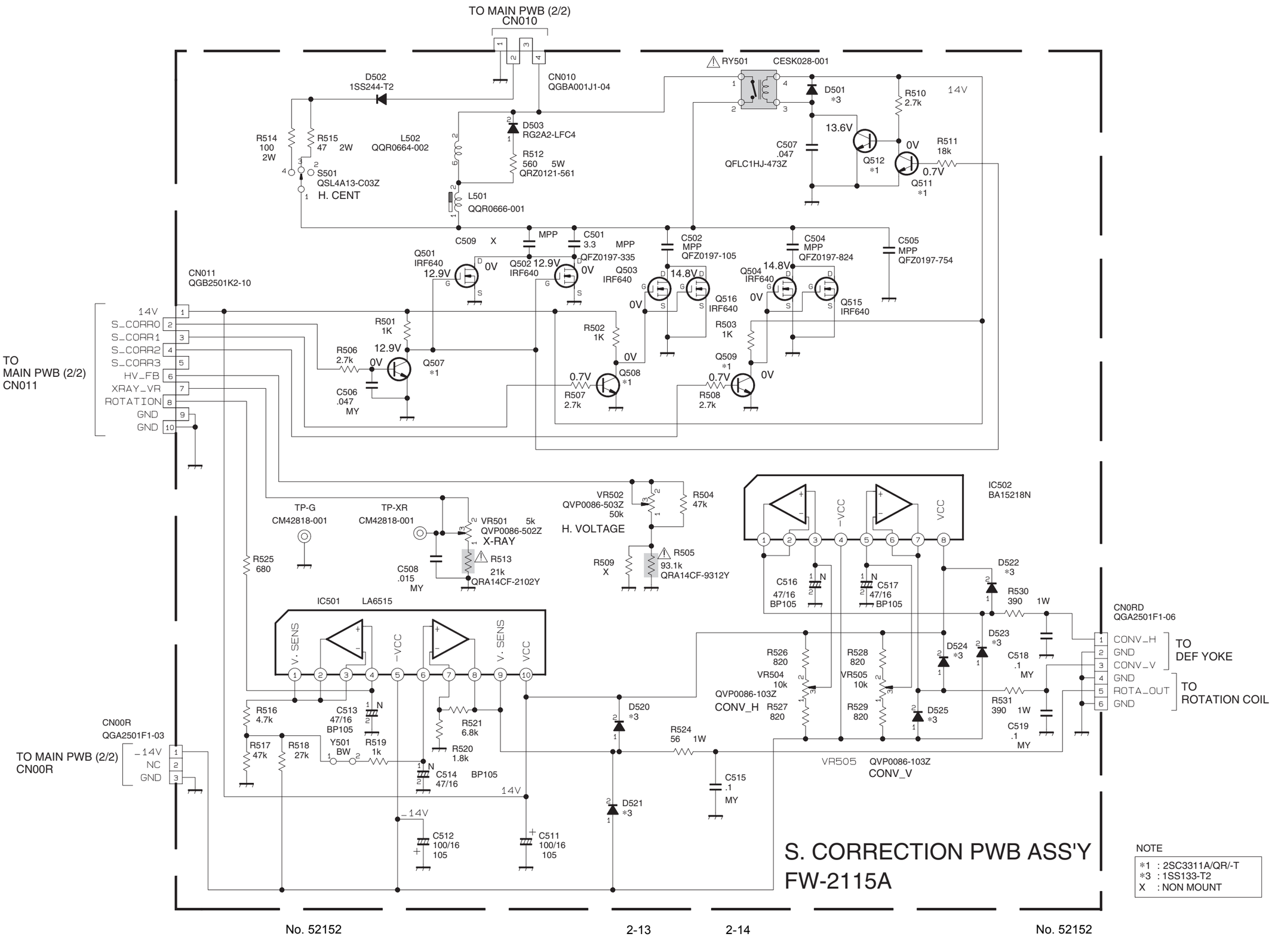


MAIN PWB ASS'Y (2/2)
FX-2091A

H_DRIVE_OUT
H_DRIVE
H_OUT
DEF_CHOKE
B140_REGULATOR
S_CORRE_EXIPANDER
V_DAF_OUT
DINAMIC_FOCUS
H_DAF CONTROL
H_DAF_OUT
HEATER OUT
HIGH_VOLTAGE_OUT
HV CONTROL MODULE PWB ASS'Y FX-M046A
SUB DEF MODULE PWB ASS'Y FX-M032A
S. CORRECTION PWB ASS'Y FX-2115A
CRT_SKT_PB FX-3065A
DEF YOKE (H)
CONV_H
CONV_V
ROTATION
TO CRT SOCKET PWB ASS'Y
TO CRT SOCKET PWB CN00T
EHV
FOCUS1
FOCUS2
SCREEN

NOTE
*1 : 2SC3311A/QR/-T
*2 : 2SA1309A/QR/-T
*3 : 1SS133-T2
*4 : DTC124ESA-T
*5 : 1SR35-400A-T2
X : NON MOUNT
BW : IM-BW

S. CORRECTION PWB CIRCUIT DIAGRAM

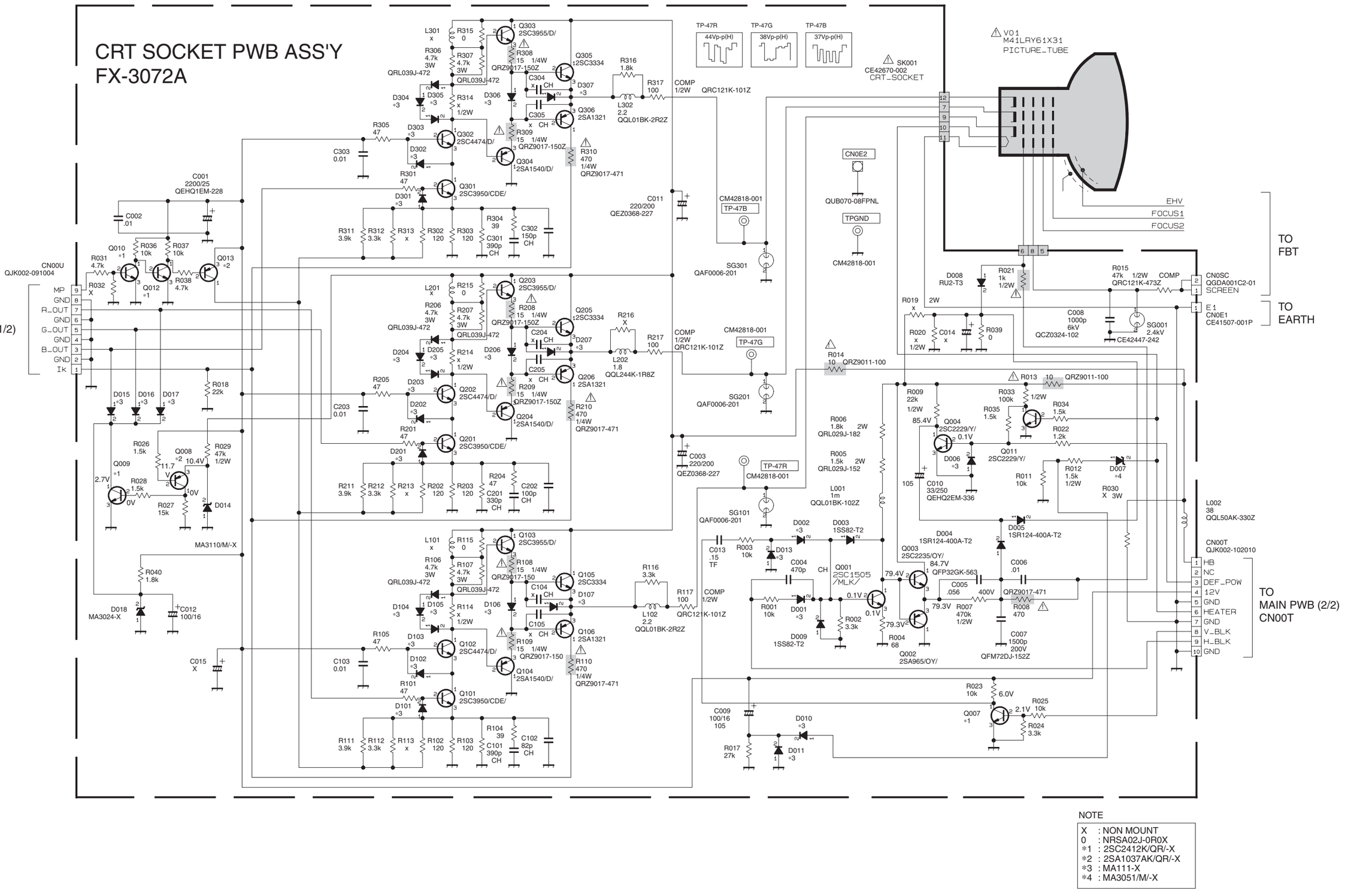


S. CORRECTION PWB ASS'Y
FW-2115A

NOTE

*1 : 2SC3311A/QR/-T
*3 : 1SS133-T2
X : NON MOUNT

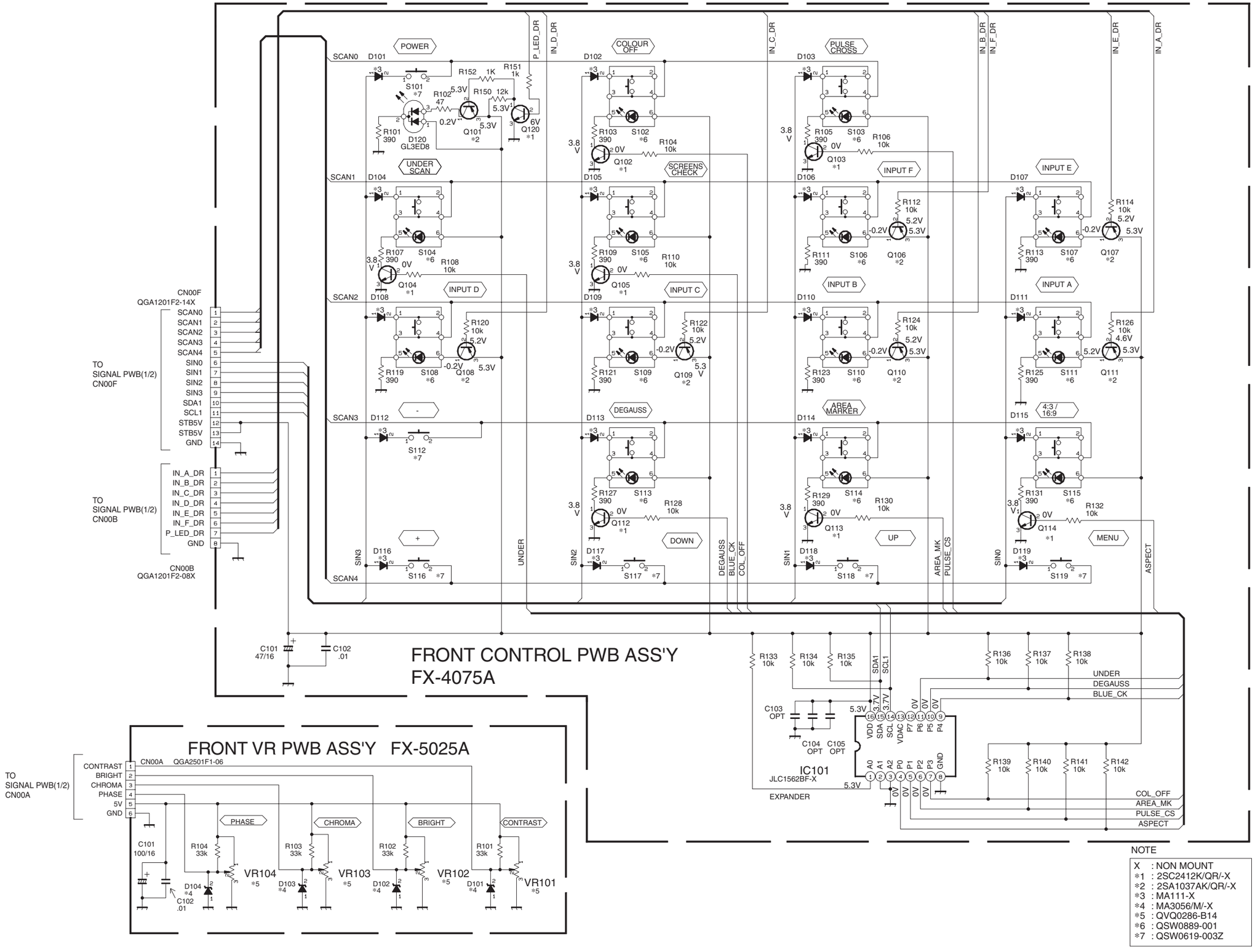
CRT SOCKET PWB ASS'Y
FX-3072A



NOTE

X	: NON MOUNT
0	: NRSA02J-0R0X
*1	: 2SC2412K/QR/-X
*2	: 2SA1037AK/QR/-X
*3	: MA111-X
*4	: MA3051/M/-X

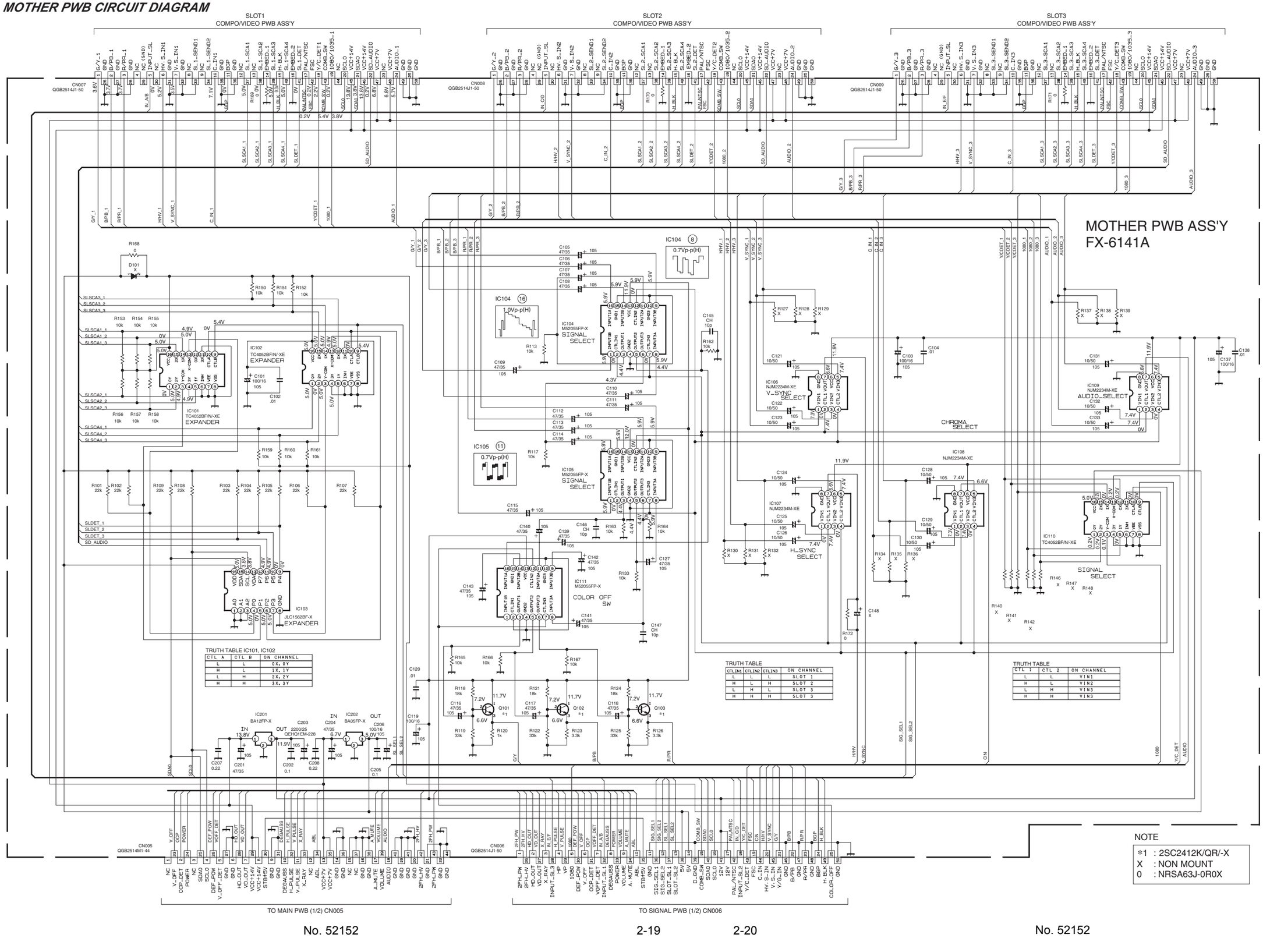
FRONT CONTROL PWB AND FRONT VR PWB CIRCUIT DIAGRAMS



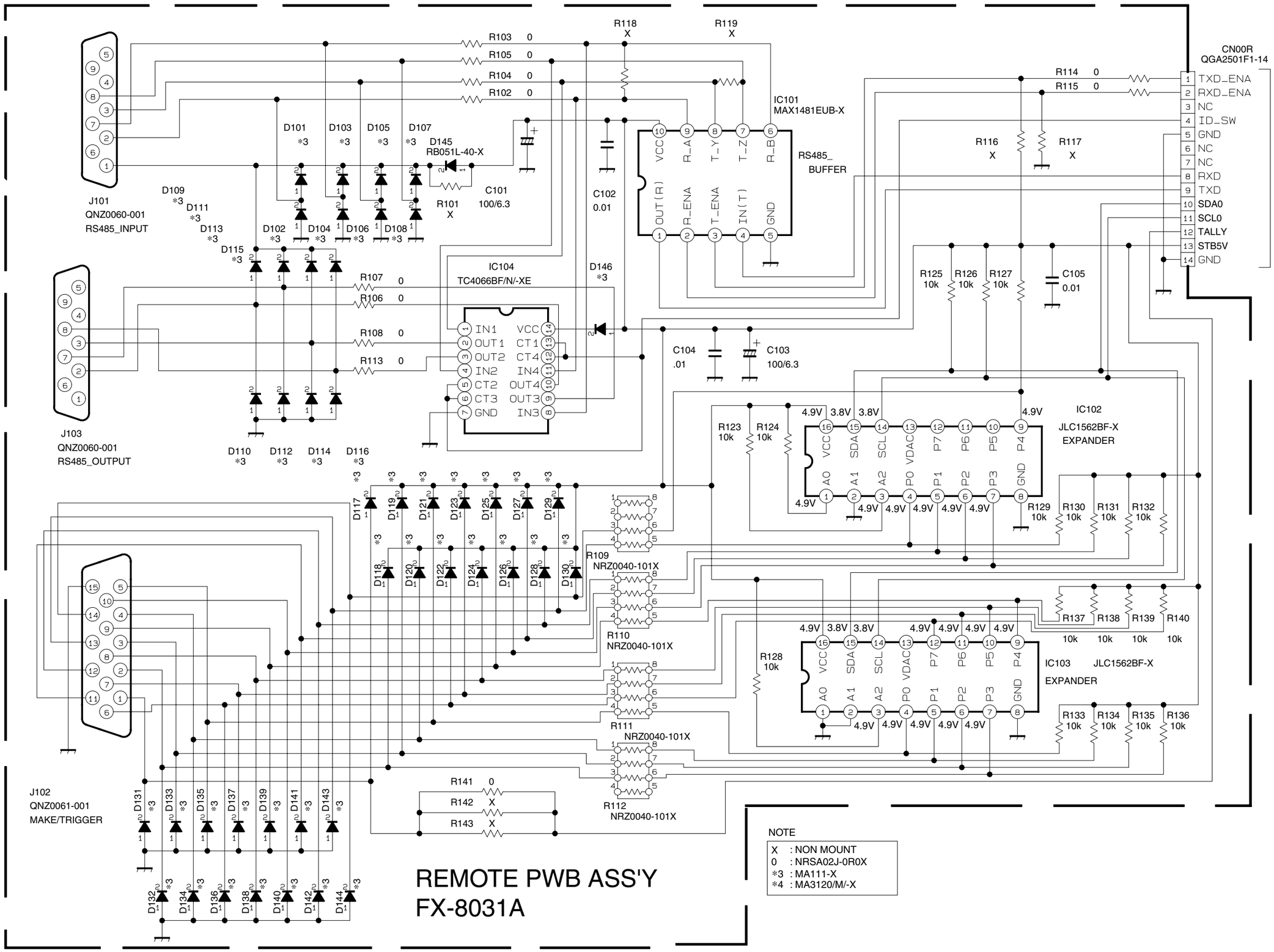
NOTE

X : NON MOUNT
*1 : 2SC2412K/QR/-X
*2 : 2SA1037AK/QR/-X
*3 : MA111-X
*4 : MA3056/M/-X
*5 : QVQ0286-B14
*6 : QSW0889-001
*7 : QSW0619-003Z

MOTHER PWB CIRCUIT DIAGRAM



REMOTE PWB CIRCUIT DIAGRAM



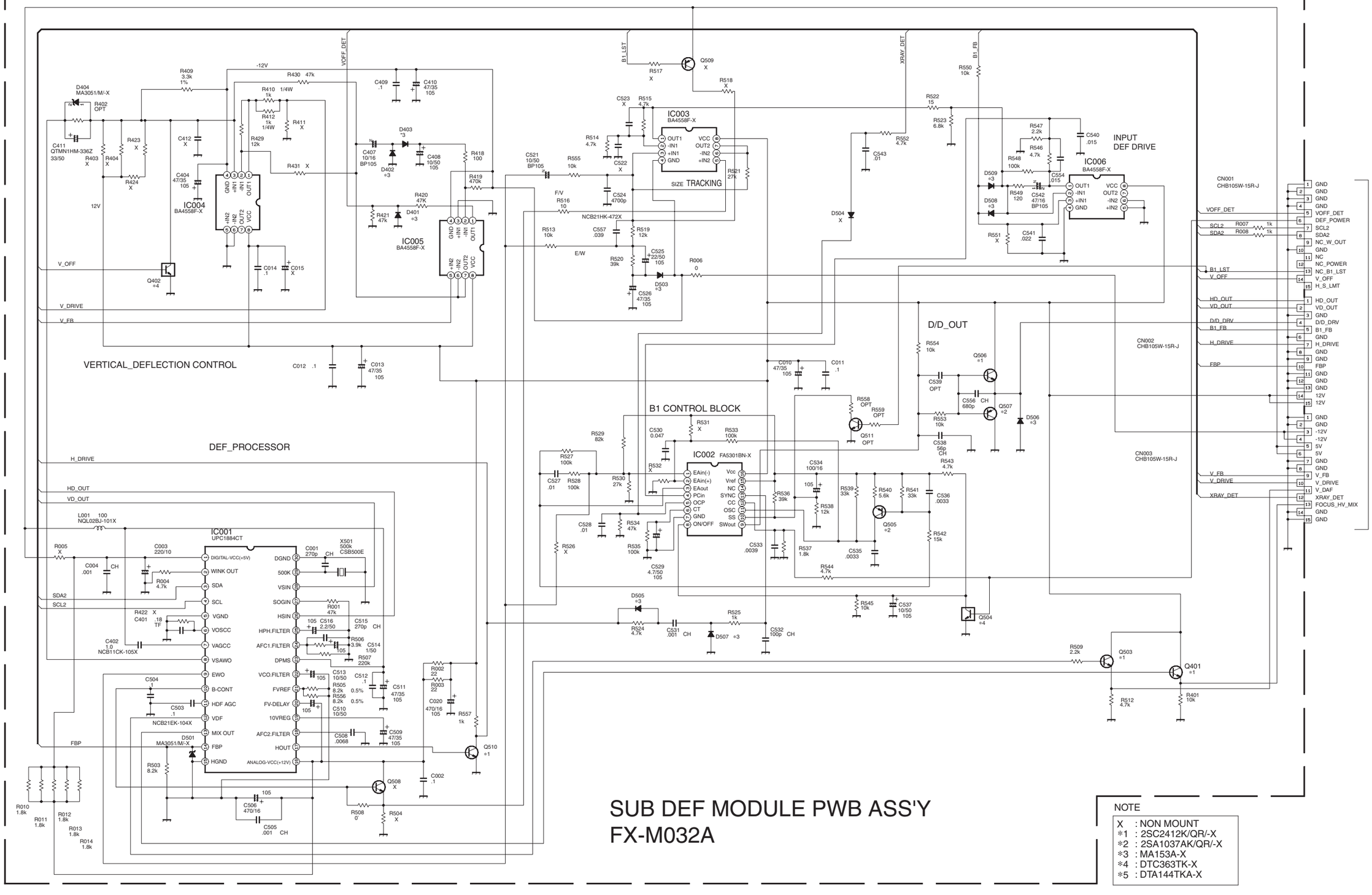
REMOTE PWB ASS'Y
FX-8031A

NOTE

X	: NON MOUNT
0	: NRSA02J-0R0X
*3	: MA111-X
*4	: MA3120/M/-X

SUB DEF MODULE PWB CIRCUIT DIAGRAM

The schematic diagram is only for reference. Avoid replacing individual parts.
Replace entire unit only.



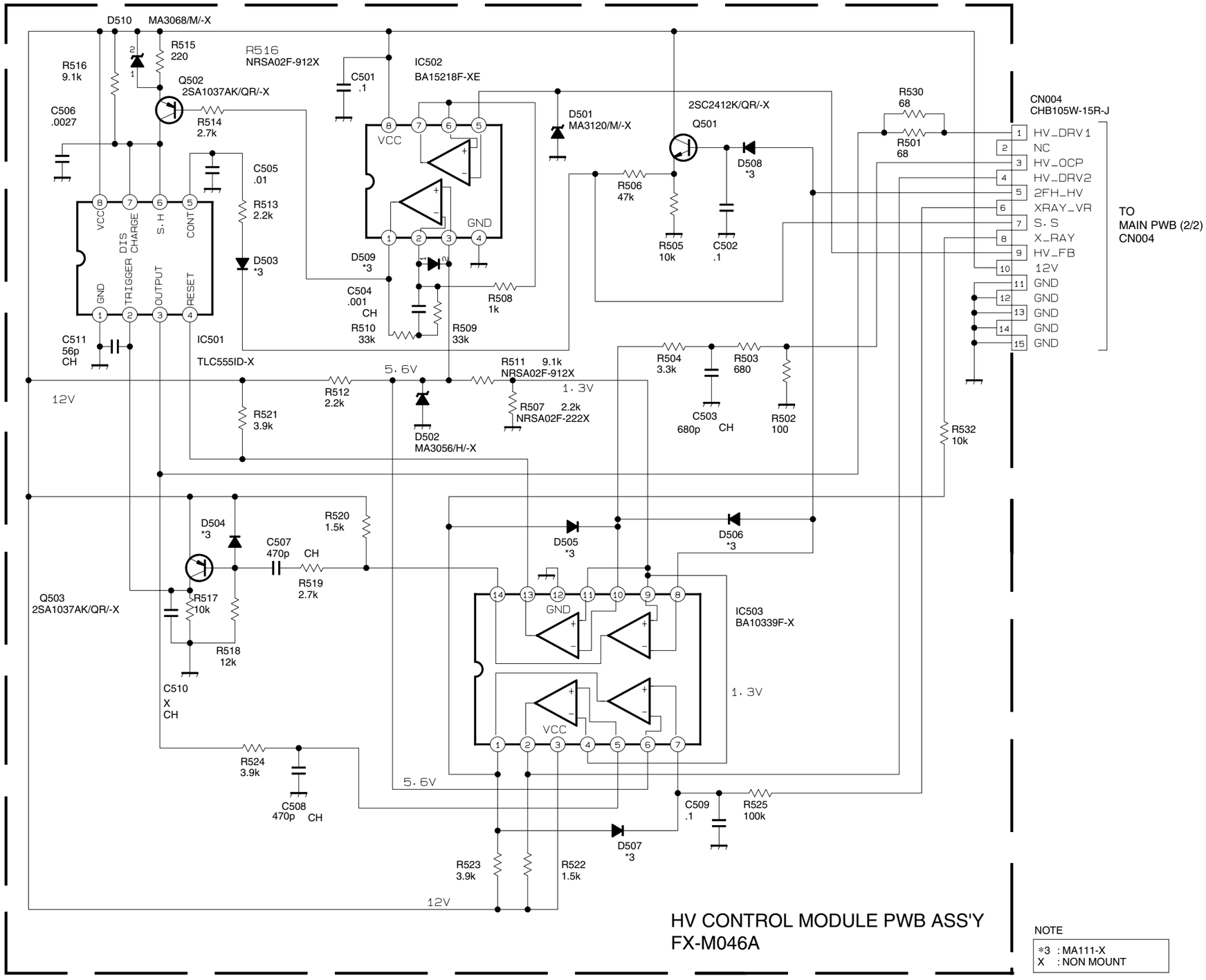
SUB DEF MODULE PWB ASS'Y
FX-M032A

NOTE

X : NON MOUNT
*1 : 2SC2412K/QR/-X
*2 : 2SA1037AK/QR/-X
*3 : MA153A-X
*4 : DTC363TK-X
*5 : DTA144TKA-X

HV CONTROL MODULE PWB CIRCUIT DIAGRAM

The schematic diagram is only for reference. Avoid replacing individual parts. Replace entire unit only.



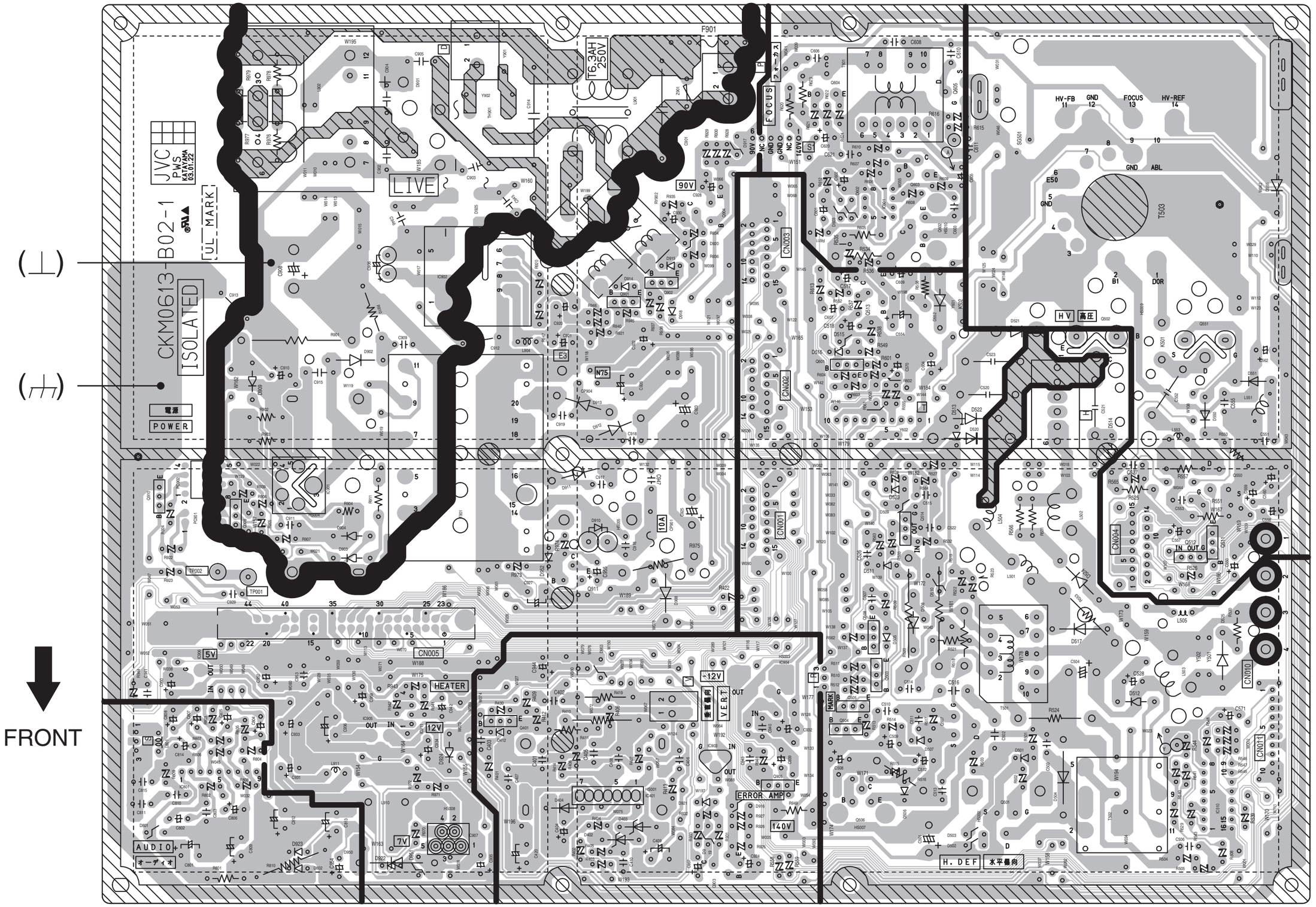
HV CONTROL MODULE PWB ASS'Y
FX-M046A

NOTE

*3 : MA111-X
X : NON MOUNT

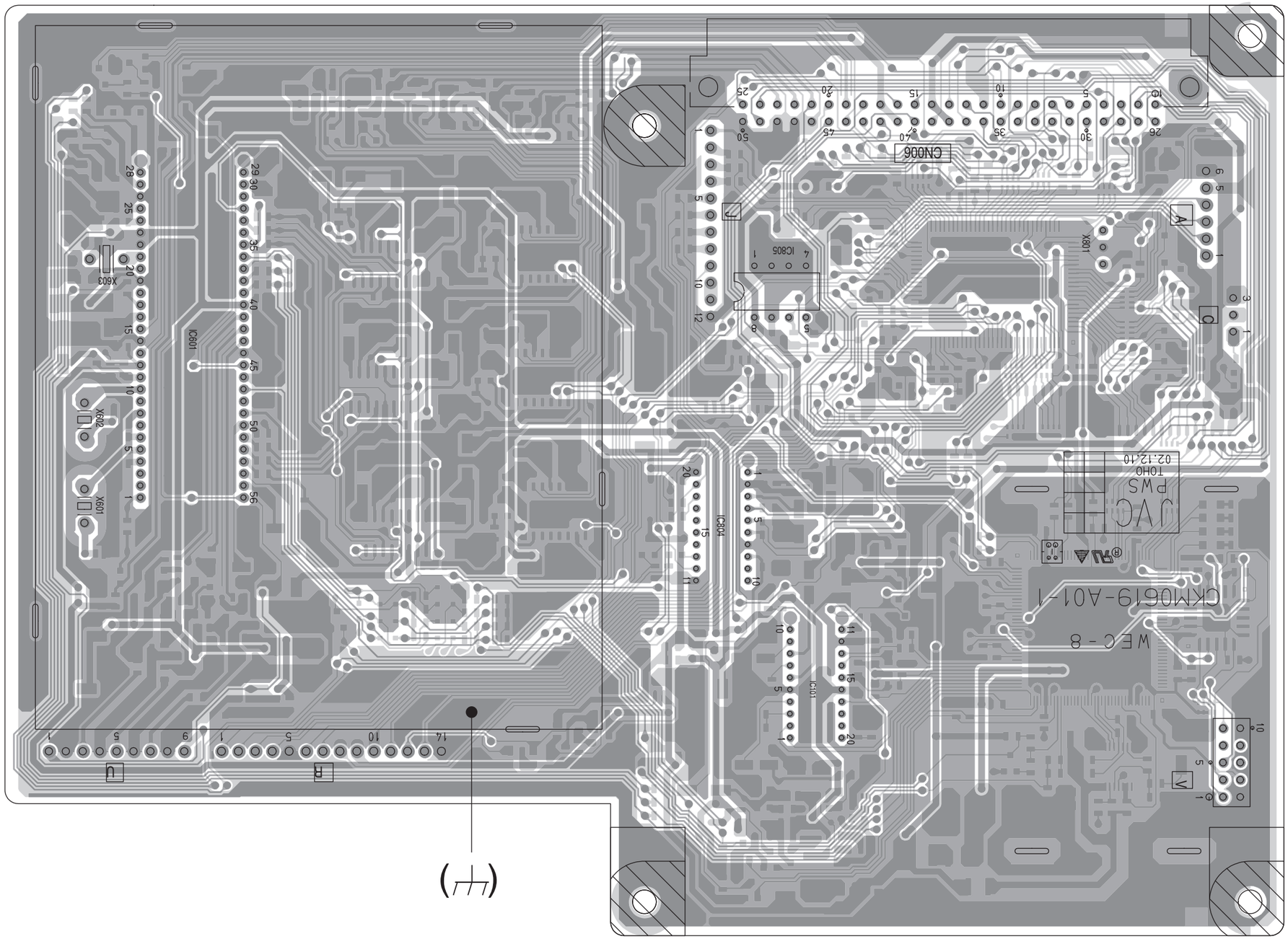
PATTERN DIAGRAMS

MAIN PWB PATTERN

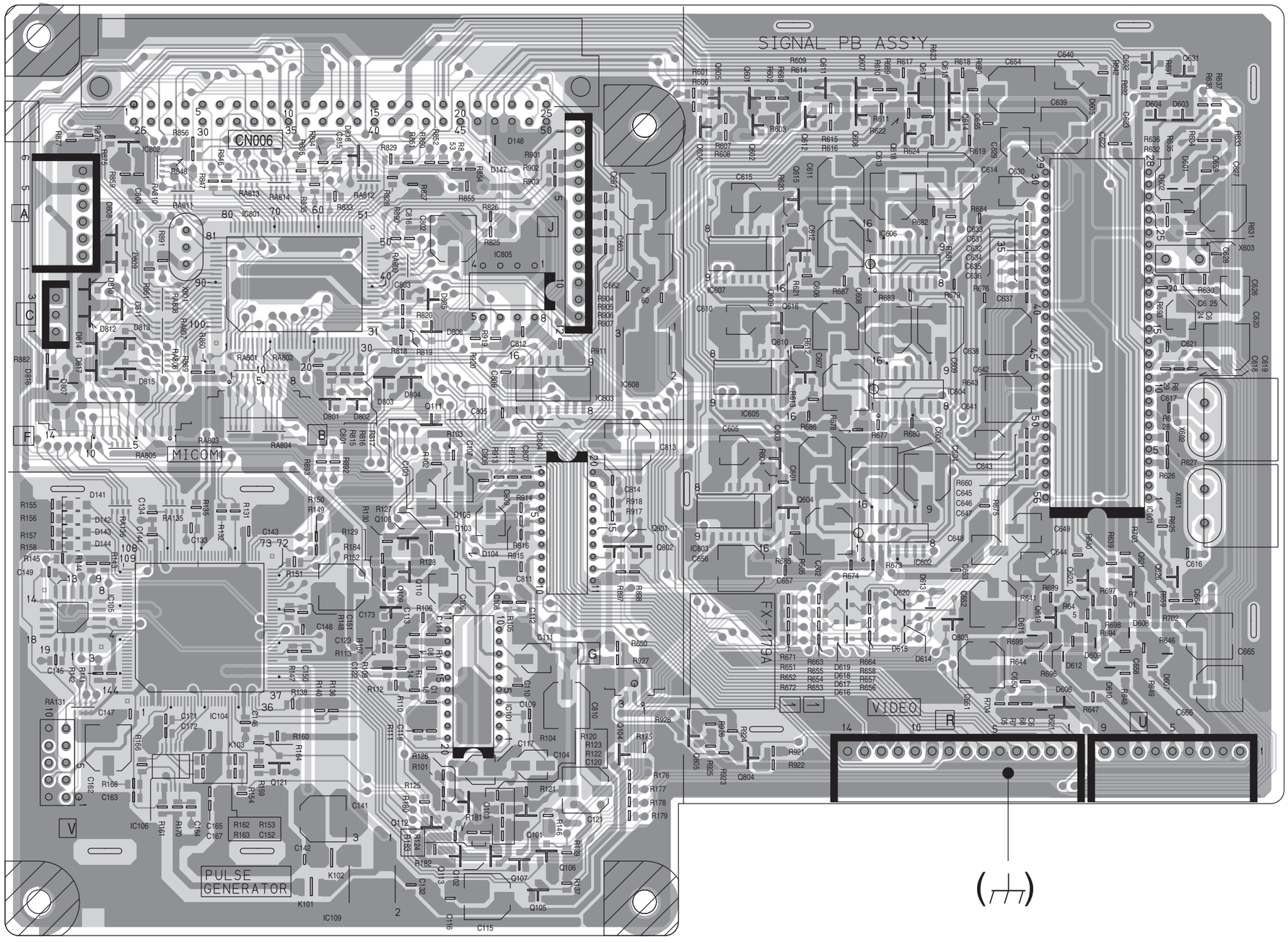


SIGNAL PWB PATTERN (SOLDER SIDE)

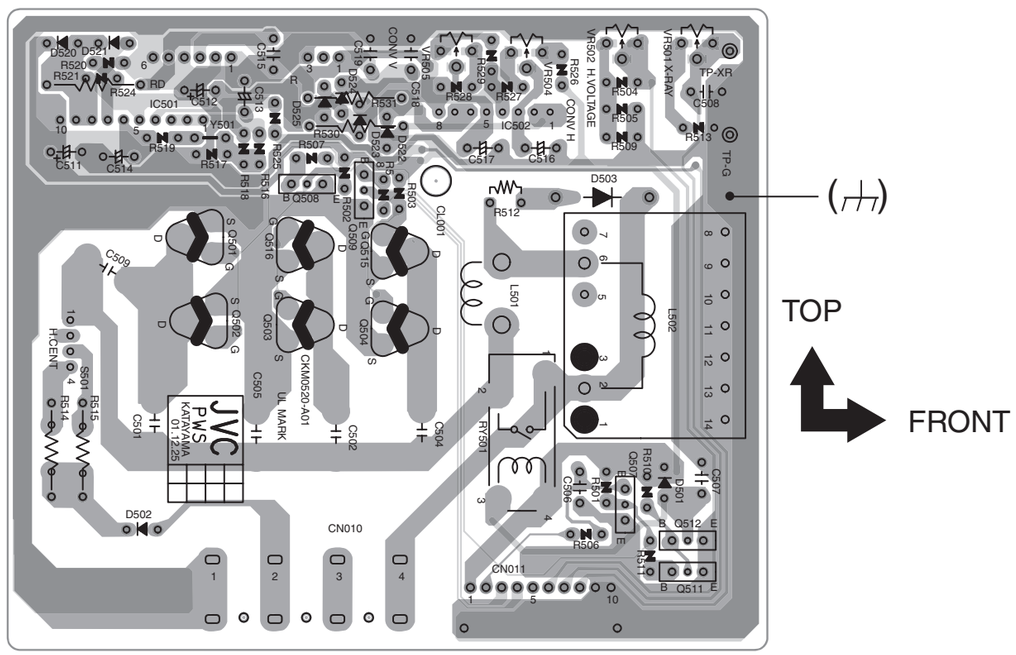
FRONT



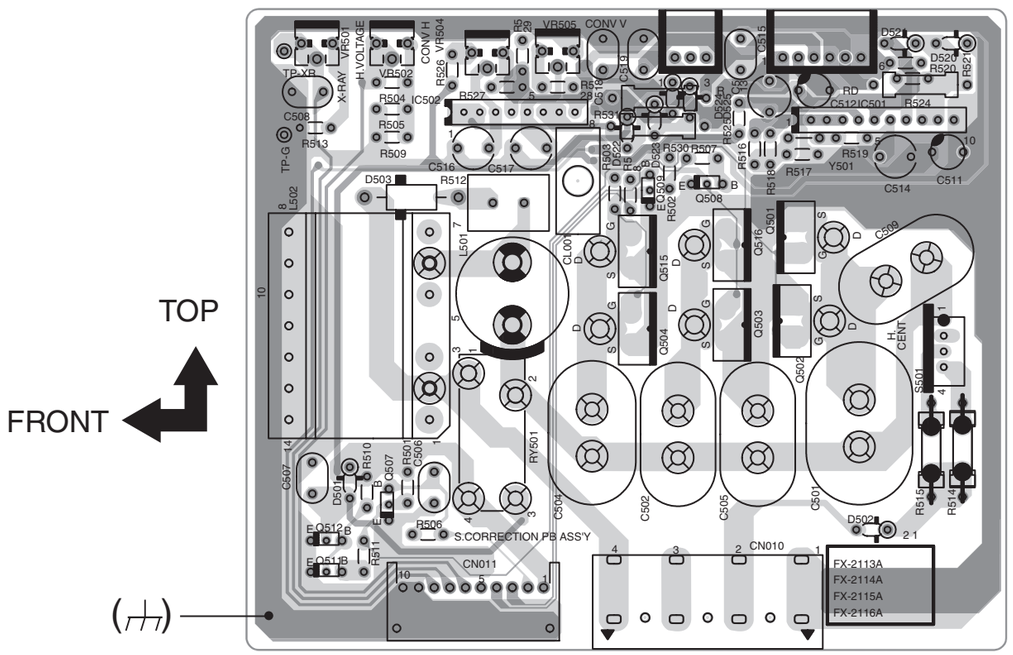
SIGNAL PWB PATTERN (PARTS SIDE)



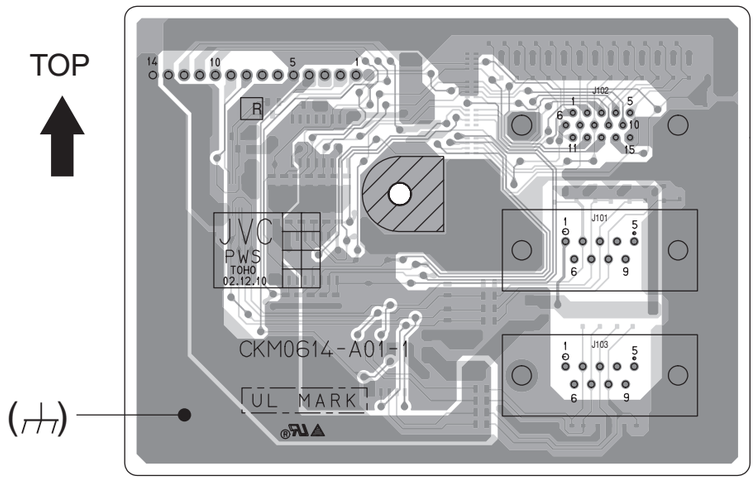
S. CORRECTION PWB PATTERN (SOLDER SIDE)



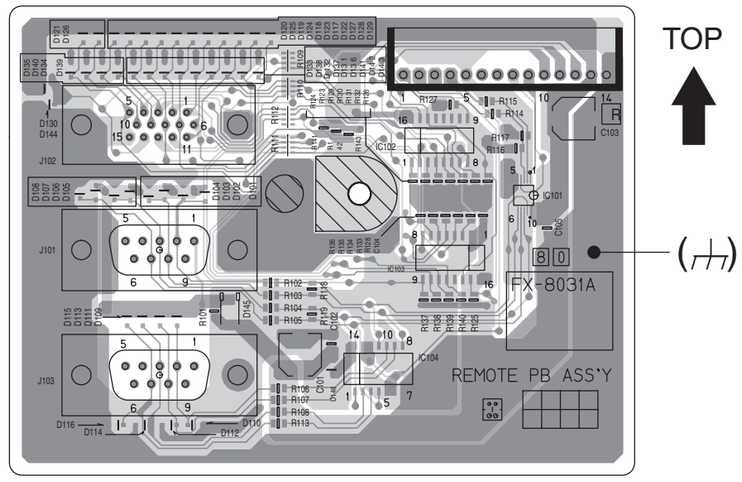
S. CORRECTION PWB PATTERN (PARTS SIDE)



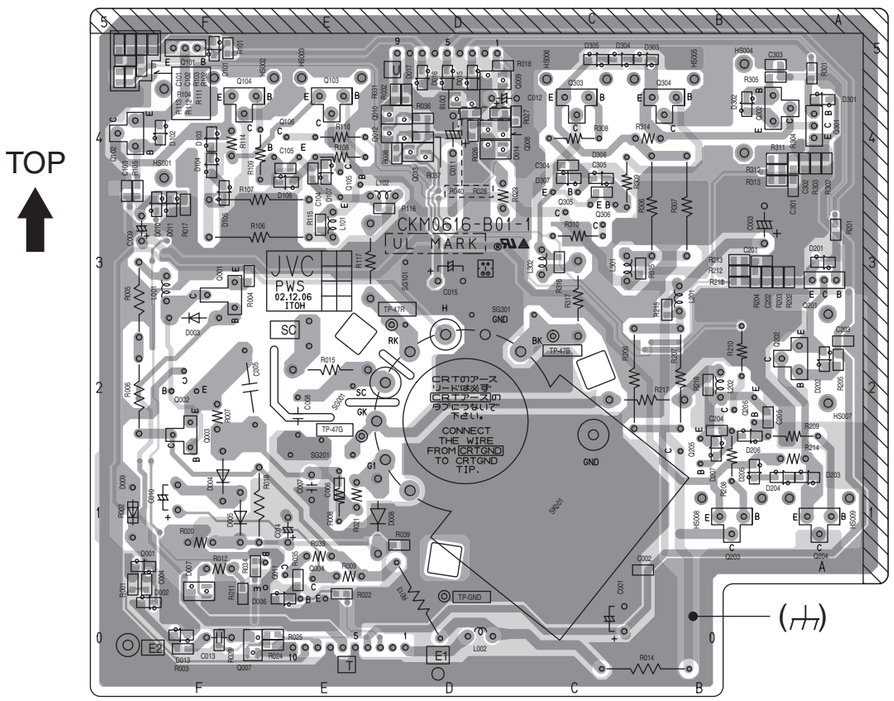
REMOTE PWB PATTERN (SOLDER SIDE)



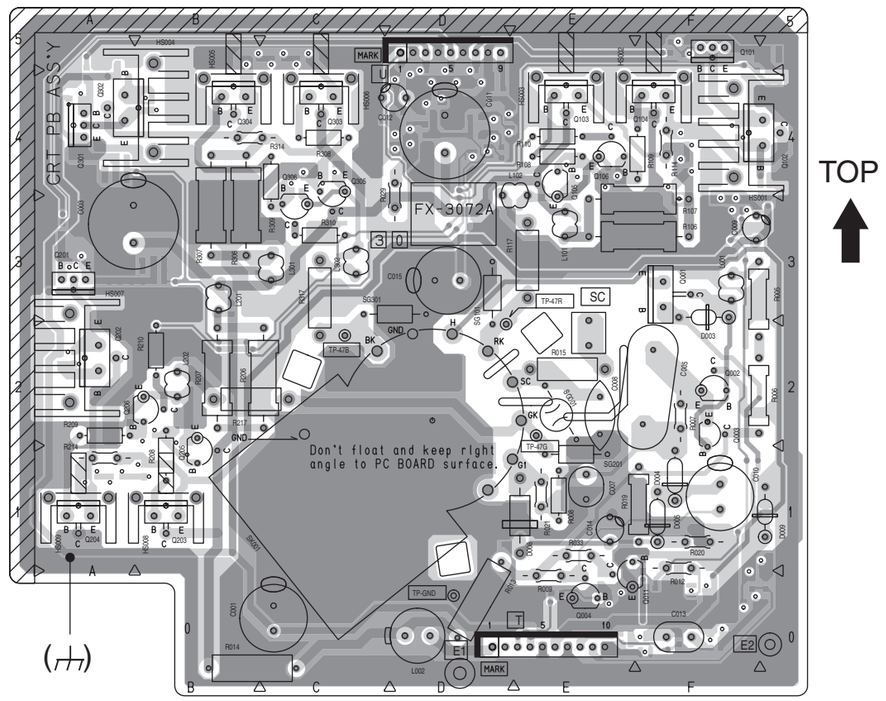
REMOTE PWB PATTERN (PARTS SIDE)



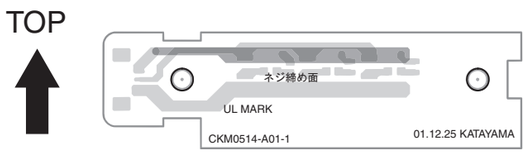
CRT SOCKET PWB PATTERN (SOLDER SIDE)



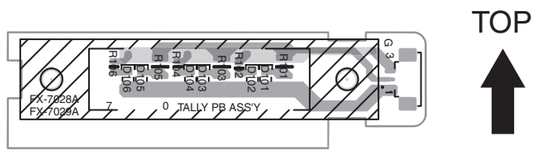
CRT SOCKET PWB PATTERN (PARTS SIDE)



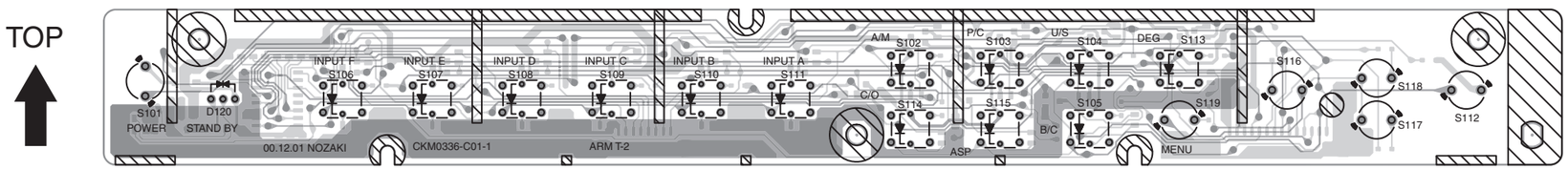
LED PWB PATTERN (SOLDER SIDE)



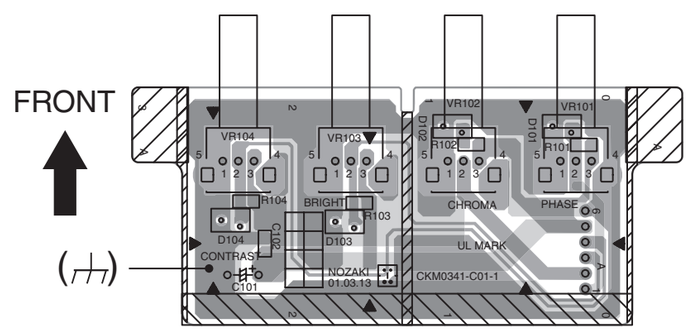
LED PWB PATTERN (PARTS SIDE)



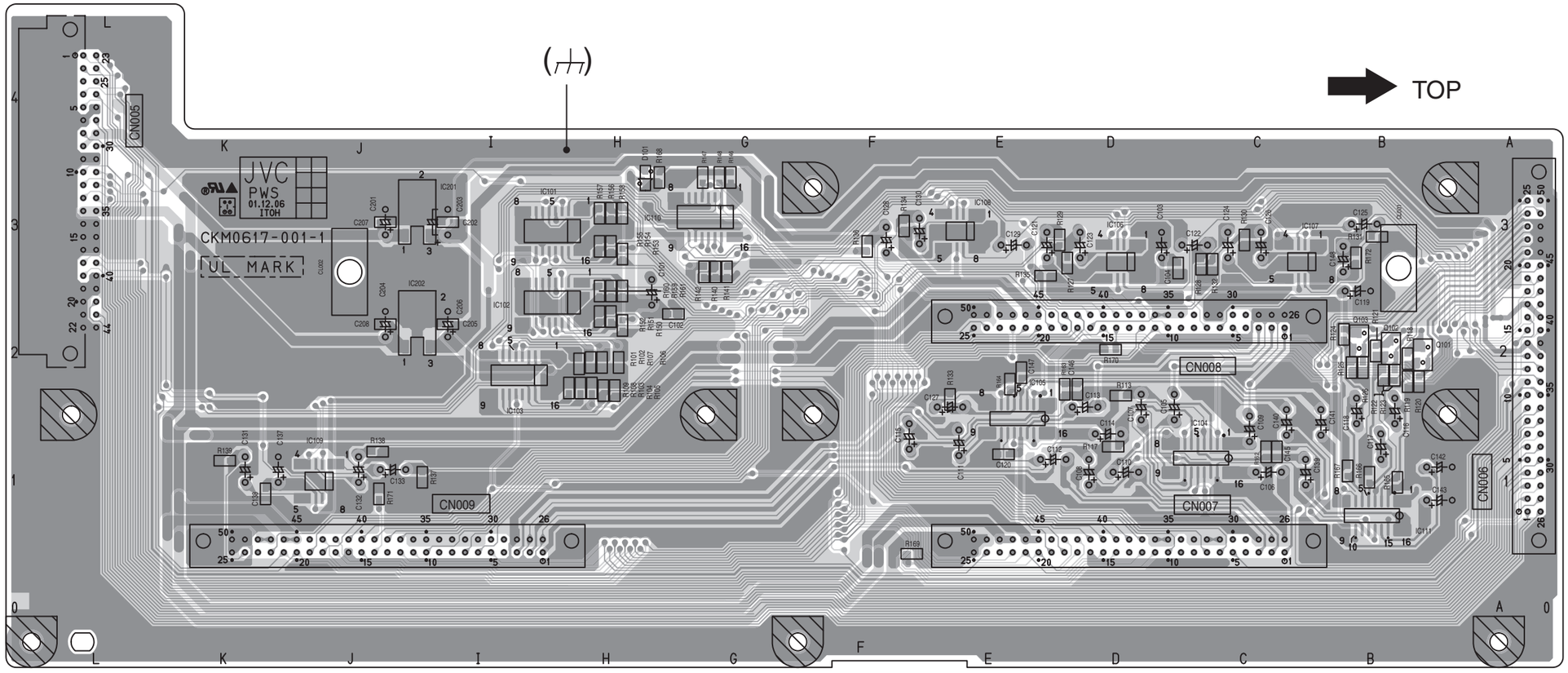
FRONT CONTROL PWB PATTERN (SOLDER SIDE)



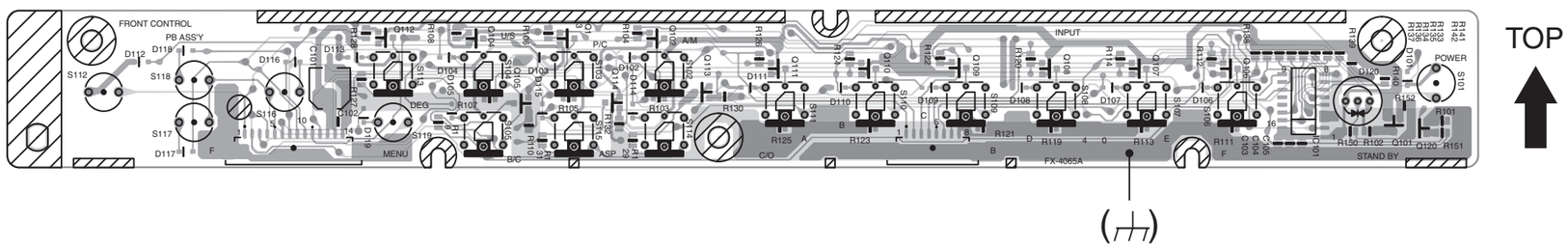
FRONT VR PWB PATTERN (SOLDER SIDE)



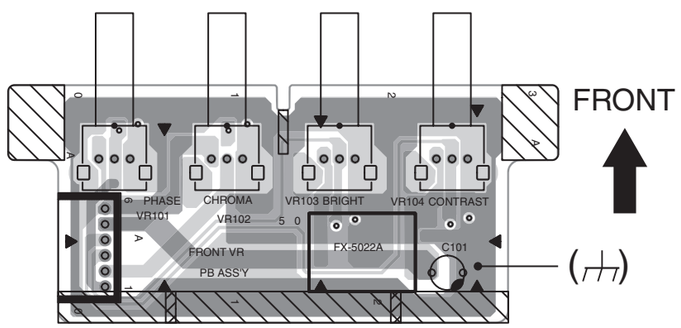
MOTHER PWB PATTERN (SOLDER SIDE)



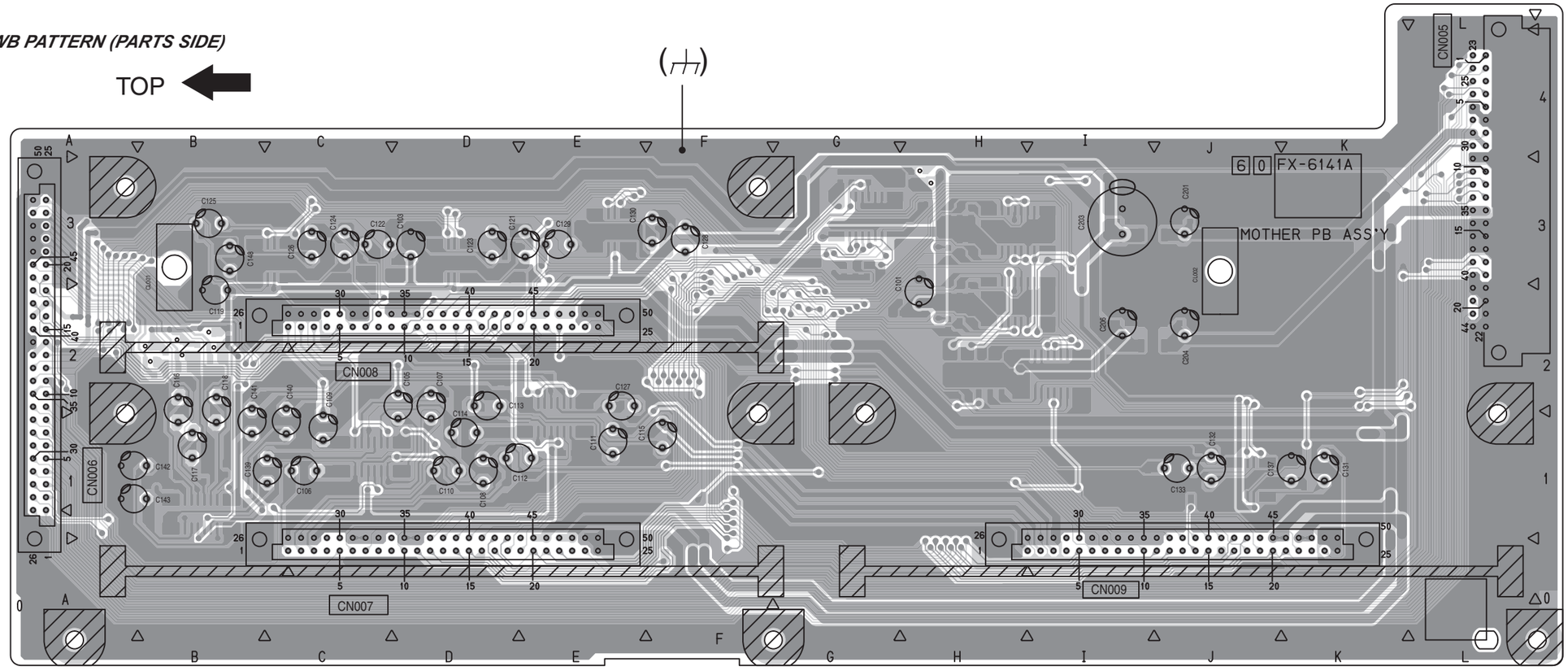
FRONT CONTROL PWB PATTERN (PARTS SIDE)



FRONT VR PWB PATTERN (PARTS SIDE)



MOTHER PWB PATTERN (PARTS SIDE)



PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS	
CR	Carbon Resistor
FR	Fusible Resistor
PR	Plate Resistor
VR	Variable Resistor
HV R	High Voltage Resistor
MF R	Metal Film Resistor
MG R	Metal Glazed Resistor
MP R	Metal Plate Resistor
OM R	Metal Oxide Film Resistor
CMF R	Coating Metal Film Resistor
UNF R	Non-Flammable Resistor
CH V R	Chip Variable Resistor
CH MG R	Chip Metal Glazed Resistor
COMP. R	Composition Resistor
LPTC R	Linear Positive Temperature Coefficient Resistor

CAPACITORS	
C CAP.	Ceramic Capacitor
E CAP.	Electrolytic Capacitor
M CAP.	Mylar Capacitor
CH CAP.	Chip Capacitor
HV CAP.	High Voltage Capacitor
MF CAP.	Metalized Film Capacitor
MM CAP.	Metalized Mylar Capacitor
MP CAP.	Metalized Polystyrol Capacitor
PP CAP.	Polypropylene Capacitor
PS CAP.	Polystyrol Capacitor
TF CAP.	Thin Film Capacitor
MPP CAP.	Metalized Polypropylene Capacitor
TAN. CAP.	Tantalum Capacitor
CH C CAP.	Chip Ceramic Capacitor
BP E CAP.	Bi-Polar Electrolytic Capacitor
CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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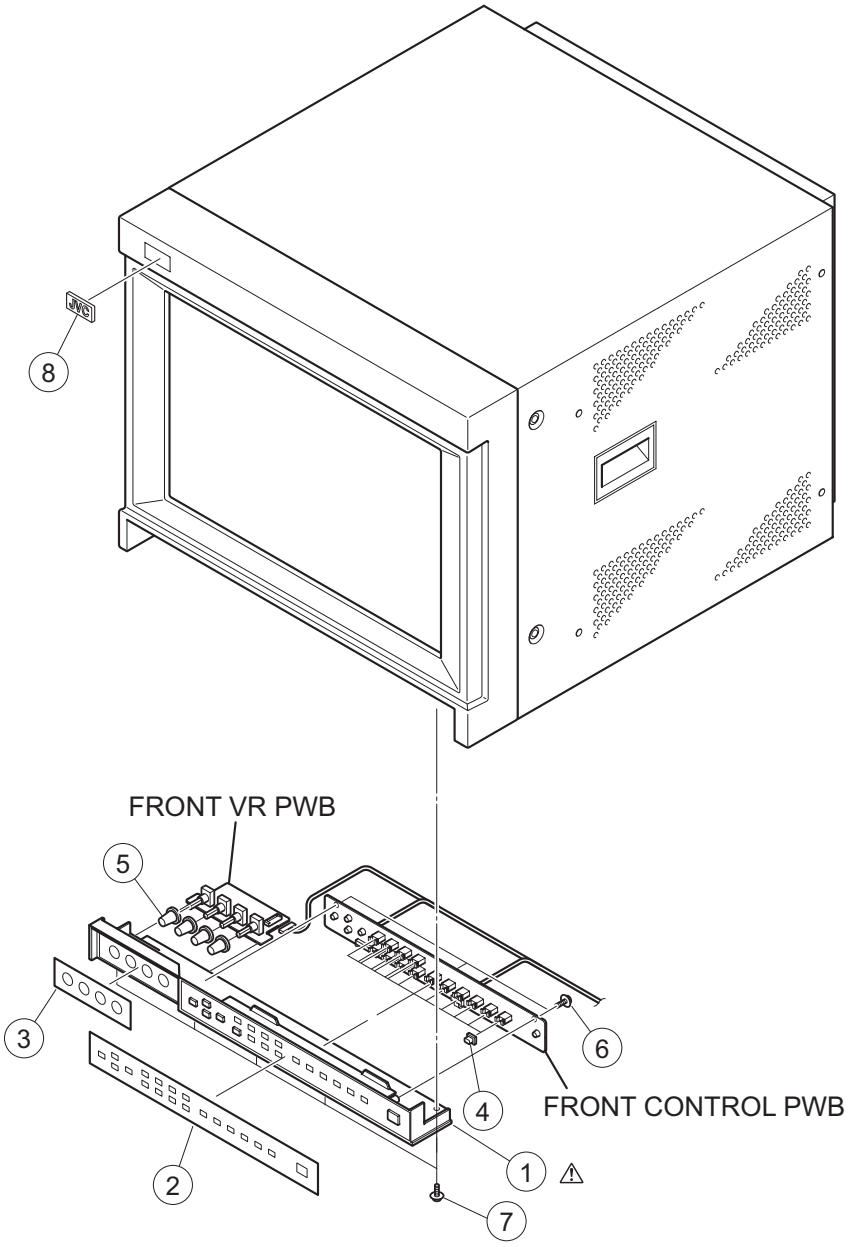
EXPLODED VIEW PARTS LIST -1

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	1	LC20620-001B	CONTROL BASE		
	2	LC31229-005A	CONTROL SHEET		
	3	LC31230-002A	VOLUME SHEET		
	4	LC40814-001A	PUSH KNOB	(x13)	
	5	CM46758-004	VOLUME KNOB	(x4)	
	6	QYSBSFG3010Z	TAP SCREW	M3 x 10mm(x3)	
	7	QYSBSF4012Z	TAP SCREW	4mm x 12mm(x5)	
	8	CM48149-A01	JVC MARK		

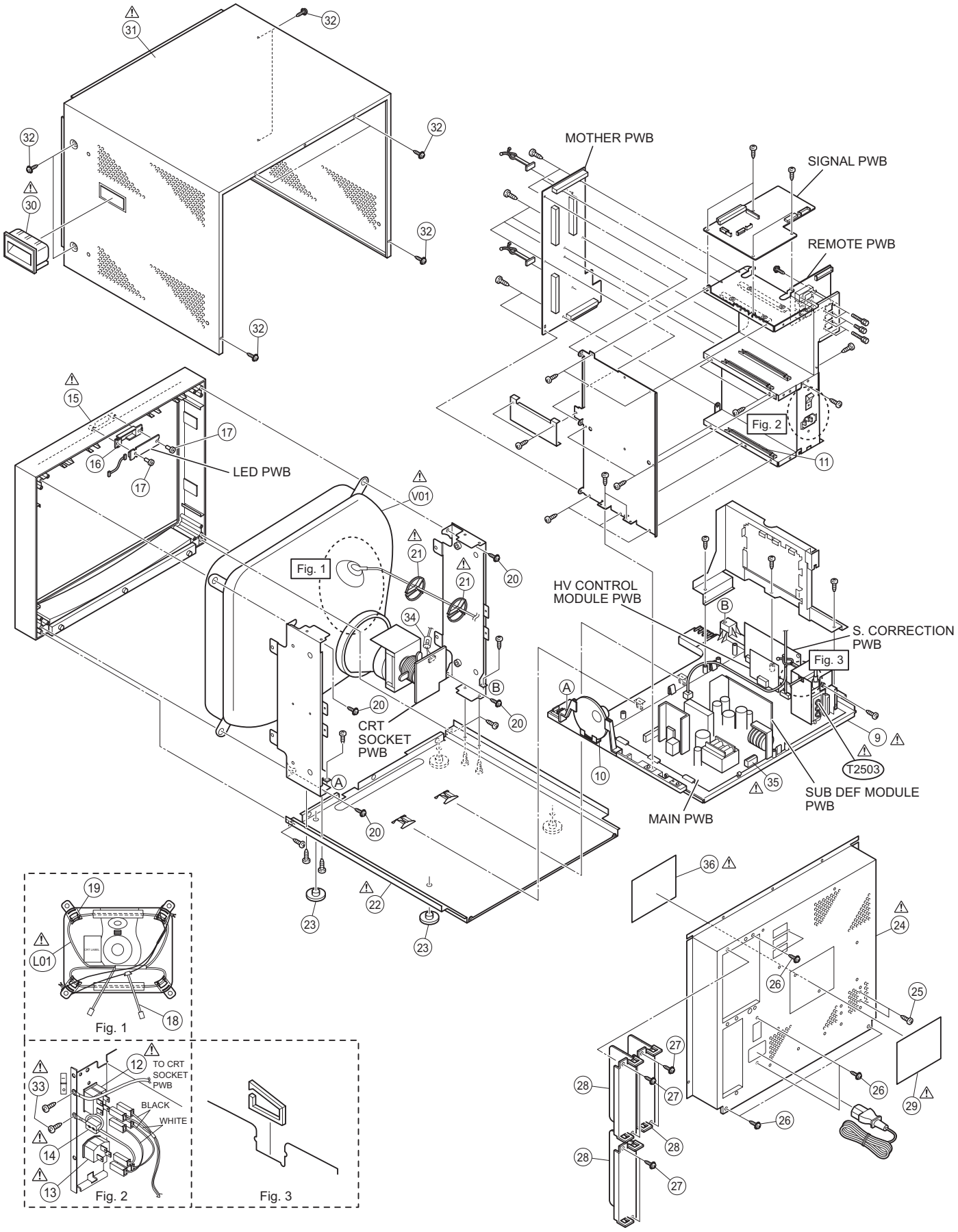
EXPLODED VIEW -1



EXPLODED VIEW PARTS LIST -2

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	M41LRY61X31S	PICTURE TUBE(ITC)	Inc.DEF YOKE	
⚠	L01	QQW0112-001	DEG COIL		
⚠	T2503	QQH0087-001	FB TRANSF		
⚠	9	LC10868-001B	CHASSIS BASE		
	10	CEBSS08P-01KJ2	SPEAKER	SP01	
	11	QZW0046-001	GUIDE RAIL	(x6)	
⚠	12	QSW0699-001	SEESAW SWITCH	S01	
⚠	13	QMCB004-001	AC INLET	J01	
⚠	14	QQR0490-001	CORE FILTER		
⚠	15	LC10867-004A	FRONT PANEL		
	16	LC40815-001A	TALLY LENS		
	17	QYSBSFG3010Z	TAP SCREW	M3 x 10mm(x2)	
	18	CHGT0011-AA-N	RECEP WIRE ASS'Y		
	19	CHM2032-045-FH	DEG CLAMP	(x4)	
	20	CM48275-001	ASSY SCREW	(x4)	
⚠	21	CM30964-001	SPACER RING	(x2)	
⚠	22	LC11052-001A-C	BOTTOM COVER		
	23	CM47686-00A	FOOT	(x4)	
⚠	24	LC11053-003A-C	REAR COVER		
	25	QYSBSF4012Z	TAP SCREW	4mm x 12mm(x2)	
	26	CM44287-00C	ASSY SCREW	(x6)	
	27	CM44287-00E	ASSY SCREW	(x6)	
	28	LC31464-003A-C	SLOT PANEL	(x3)	
⚠	29	LC21232-004A-0L	RATING LABEL		DT-V1710CG/U
⚠	29	LC21232-003A-0L	RATING LABEL		DT-V1710CG/E
⚠	30	LC20914-001B-H	HANDLE	(x2)	
⚠	31	LC10270-013A-H	TOP COVER		
	32	CM44287-00C	ASSY SCREW	(x8)	
⚠	33	CM44287-00E	ASSY SCREW		
	34	QQR0942-001	CORE FILTER		
⚠	35	CM48184-001	FUSE COVER		
⚠	36	CM36241-014	WARNING LABEL		

EXPLODED VIEW -2



PRINTED WIRING BOARD PARTS LIST

SIGNAL P.W.BOARD ASS'Y (FX-1183A)

⚠Ref No.	Part No.	Part Name	Description Local
IC1101	M52346SP	IC	
IC1104	EPF6024ATC144-1	IC	
IC1105	EPC2LC20-V1710C	IC(DIGITAL)	(SERVICE)
IC1106	TLC2932IPW-X	IC	
IC1109	BA033FP-X	IC	
IC1601	TA1276AN	IC	
IC1602	M52055FP-X	IC	
IC1603	TC4053BF/N/-XE	IC	
IC1604	M52055FP-X	IC	
IC1605	TC4053BF/N/-XE	IC	
IC1606	M52055FP-X	IC	
IC1607	TC4053BF/N/-XE	IC	
IC1608	BA09FP-X	IC	
IC1801	MB90F553V1710C	IC	(SERVICE)
IC1802	MN1382/Q/-X	IC	
IC1803	TC4053BF/N/-XE	IC	
IC1804	M35045-075SP	IC	
IC1805	AT24C16-V1710C	IC	(SERVICE)
Q1101	2SC2412K/QR/-X	TRANSISTOR	
Q1102	2SA1037AK/QR/-X	TRANSISTOR	
Q1103	2SC2412K/QR/-X	TRANSISTOR	
Q1104	2SC2412K/QR/-X	TRANSISTOR	
Q1105	2SC2412K/QR/-X	TRANSISTOR	
Q1106	2SC2412K/QR/-X	TRANSISTOR	
Q1107	2SC2412K/QR/-X	TRANSISTOR	
Q1108	2SA1037AK/QR/-X	TRANSISTOR	
Q1109	DTC124EKA-X	DIGI TRANSISTOR	
Q1110	2SC2412K/QR/-X	TRANSISTOR	
Q1111	DTC124EKA-X	DIGI TRANSISTOR	
Q1112	DTC124EKA-X	DIGI TRANSISTOR	
Q1113	DTC124EKA-X	DIGI TRANSISTOR	
Q1601	2SC2412K/QR/-X	TRANSISTOR	
Q1602	2SC2412K/QR/-X	TRANSISTOR	
Q1603	2SA1037AK/QR/-X	TRANSISTOR	
Q1604	2SC2412K/QR/-X	TRANSISTOR	
Q1605	2SC2412K/QR/-X	TRANSISTOR	
Q1606	2SA1037AK/QR/-X	TRANSISTOR	
Q1607	2SC2412K/QR/-X	TRANSISTOR	
Q1608	2SC2412K/QR/-X	TRANSISTOR	
Q1609	2SA1037AK/QR/-X	TRANSISTOR	
Q1610	2SC2412K/QR/-X	TRANSISTOR	
Q1611	2SC2412K/QR/-X	TRANSISTOR	
Q1612	2SA1037AK/QR/-X	TRANSISTOR	
Q1613	2SC2412K/QR/-X	TRANSISTOR	
Q1614	2SC2412K/QR/-X	TRANSISTOR	
Q1615	2SA1037AK/QR/-X	TRANSISTOR	
Q1616	2SC2412K/QR/-X	TRANSISTOR	
Q1617	2SC2412K/QR/-X	TRANSISTOR	
Q1618	2SA1037AK/QR/-X	TRANSISTOR	
Q1619	2SC2412K/QR/-X	TRANSISTOR	
Q1620	2SC2412K/QR/-X	TRANSISTOR	
Q1621	2SC2412K/QR/-X	TRANSISTOR	
Q1626	2SA1037AK/QR/-X	TRANSISTOR	
Q1631	DTC124EKA-X	DIGI TRANSISTOR	
Q1632	DTC124EKA-X	DIGI TRANSISTOR	
Q1801	2SC2412K/QR/-X	TRANSISTOR	
Q1802	2SC2412K/QR/-X	TRANSISTOR	
Q1803	DTC124EKA-X	DIGI TRANSISTOR	
Q1804	2SC2412K/QR/-X	TRANSISTOR	
Q1805	2SC2412K/QR/-X	TRANSISTOR	
D1103	MA111-X	SI DIODE	
D1104	MA111-X	SI DIODE	
D1601	MA111-X	SI DIODE	
D1602	MA111-X	SI DIODE	
D1605	MA111-X	SI DIODE	
D1606	MA3030/H/-X	Z DIODE	
D1607	MA111-X	SI DIODE	
D1608	MA111-X	SI DIODE	
D1609	MA111-X	SI DIODE	
D1610	MA111-X	SI DIODE	
D1611	MA111-X	SI DIODE	
D1612	MA111-X	SI DIODE	
D1613	MA111-X	SI DIODE	
D1614	MA111-X	SI DIODE	
D1615	MA111-X	SI DIODE	
D1616	MA111-X	SI DIODE	
D1617	MA111-X	SI DIODE	
D1618	MA111-X	SI DIODE	
D1619	MA2Z720-X	SB DIODE	
D1620	MA111-X	SI DIODE	

⚠Ref No.	Part No.	Part Name	Description Local
D1621	MA111-X	SI DIODE	
D1801	MA3051/M/-X	Z DIODE	
D1802	MA3051/M/-X	Z DIODE	
D1803	MA3051/M/-X	Z DIODE	
D1804	MA3051/M/-X	Z DIODE	
D1805	MA3051/M/-X	Z DIODE	
D1806	MA3051/M/-X	Z DIODE	
D1807	MA2Z720-X	SB DIODE	
D1808	MA3051/M/-X	Z DIODE	
D1809	MA3051/M/-X	Z DIODE	
D1810	MA3051/M/-X	Z DIODE	
D1811	MA3051/M/-X	Z DIODE	
D1812	MA3051/M/-X	Z DIODE	
D1813	MA3051/M/-X	Z DIODE	
D1814	MA3051/M/-X	Z DIODE	
D1815	MA3051/M/-X	Z DIODE	
D1816	MA3051/M/-X	Z DIODE	
D1817	MA3051/M/-X	Z DIODE	
D1818	MA3051/M/-X	Z DIODE	
C1103	NEH71HM-474X	E CAPACITOR	0.47uF 50V M
C1104	NEN51HM-105X	BP E CAPACITOR	1uF 50V M
C1106	NEH71EM-475X	E CAPACITOR	4.7uF 25V M
C1107	NEN51CM-475X	BP E CAPACITOR	4.7uF 16V M
C1108	NEH71EM-475X	E CAPACITOR	4.7uF 25V M
C1109	NCB21HK-472X	C CAPACITOR	4700pF 50V K
C1110	NCB21EK-683X	C CAPACITOR	0.068uF 25V K
C1111	NEH71HM-105X	E CAPACITOR	1uF 50V M
C1112	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C1113	NDC21HJ-121X	C CAPACITOR	120pF 50V J
C1114	NDC21HJ-820X	C CAPACITOR	82pF 50V J
C1115	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C1116	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1117	NEH71CM-106X	E CAPACITOR	10uF 16V M
C1118	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1119	NDC21HJ-101X	C CAPACITOR	100pF 50V J
C1121	NEH71CM-476X	E CAPACITOR	47uF 16V M
C1122	NDC21HJ-330X	C CAPACITOR	33pF 50V J
C1123	NCB21HK-102X	C CAPACITOR	1000pF 50V K
C1132	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1133	NDC21HJ-100X	C CAPACITOR	10pF 50V J
C1134	NDC21HJ-271X	C CAPACITOR	270pF 50V J
C1141	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C1142	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1143	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1144	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1145	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1146	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1147	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1148	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1149	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M
C1150	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C1151	NCB21HK-152X	C CAPACITOR	1500pF 50V K
C1162	NEH70GM-227X	E CAPACITOR	220uF 4V M
C1163	NCF21HZ-224X	C CAPACITOR	0.22uF 50V Z
C1164	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1165	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1167	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M
C1168	QEHR1EM-107Z	E CAPACITOR	100uF 25V M
C1171	NDC21HJ-220X	C CAPACITOR	22pF 50V J
C1172	NDC21HJ-220X	C CAPACITOR	22pF 50V J
C1173	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C1601	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1602	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1603	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1604	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1605	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1606	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1607	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1608	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1609	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1610	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1611	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1612	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1613	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1614	NEN51AM-336X	BP E CAPACITOR	33uF 10V M
C1615	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1616	NDC21HJ-120X	C CAPACITOR	12pF 50V J
C1617	NDC21HJ-120X	C CAPACITOR	12pF 50V J
C1618	NCB21CK-224X	C CAPACITOR	0.22uF 16V K
C1619	NCF21HZ-223X	C CAPACITOR	0.022uF 50V Z
C1620	NEH71CM-476X	E CAPACITOR	47uF 16V M
C1621	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1622	NCB21EK-104X	C CAPACITOR	0.1uF 25V K

⚠Ref No.	Part No.	Part Name	Description Local
C1623	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1624	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1625	NCB21HK-223X	C CAPACITOR	0.022uF 50V K
C1626	NEH71CM-106X	E CAPACITOR	10uF 16V M
C1627	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1628	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1629	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1630	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1631	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1632	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1633	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1634	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1635	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1636	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1637	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1638	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1639	NEH71CM-476X	E CAPACITOR	47uF 16V M
C1640	NEH71HM-105X	E CAPACITOR	1uF 50V M
C1641	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1642	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1643	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1644	NEH71CM-106X	E CAPACITOR	10uF 16V M
C1645	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1646	NCB21CK-474X	C CAPACITOR	0.47uF 16V K
C1647	NCB21CK-474X	C CAPACITOR	0.47uF 16V K
C1648	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1649	NEH71HM-225X	E CAPACITOR	2.2uF 50V M
C1651	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1652	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1653	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1654	NEH71CM-476X	E CAPACITOR	47uF 16V M
C1655	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1656	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1657	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1658	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1659	NDC21HJ-151X	C CAPACITOR	150pF 50V J
C1660	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1662	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1663	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1664	NCB21EK-104X	C CAPACITOR	0.1uF 25V K
C1665	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1666	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1667	NEH71AM-107X	E CAPACITOR	100uF 10V M
C1668	NDC21HJ-271X	C CAPACITOR	270pF 50V J
C1801	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1802	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C1803	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1804	NDC21HJ-271X	C CAPACITOR	270pF 50V J
C1806	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1807	NCB21HK-472X	C CAPACITOR	4700pF 50V K
C1808	NCF21EZ-104X	C CAPACITOR	0.1uF 25V Z
C1809	NEH71HM-105X	E CAPACITOR	1uF 50V M
C1810	NEH71CM-476X	E CAPACITOR	47uF 16V M
C1811	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1812	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C1813	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C1814	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C1815	NDC21HJ-271X	C CAPACITOR	270pF 50V J
C1816	NCB21HK-222X	C CAPACITOR	2200pF 50V K
R1101	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1103	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1104	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J
R1105	NRSA02J-154X	MG RESISTOR	150kΩ 1/10W J
R1106	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J
R1107	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J
R1108	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1109	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1110	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1111	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1112	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1113	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1114	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1120	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J
R1121	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J
R1122	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J
R1123	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J
R1124	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1125	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J
R1126	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1128	NRSA02J-334X	MG RESISTOR	330kΩ 1/10W J
R1129	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1130	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1131	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1132	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1135	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1136	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1137	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1138	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1139	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1140	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1141	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1142	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1143	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1144	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1145	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1146	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1147	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1148	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1149	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1150	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1151	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1152	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1153	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1154	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1161	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1162	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J
R1163	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J
R1164	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1166	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1168	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R1170	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R1175	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1176	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J
R1177	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1178	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1179	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1180	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1181	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1182	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1183	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J
R1601	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1602	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1603	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1604	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1605	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1606	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1607	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1608	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1609	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1610	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1611	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1612	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1613	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1614	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1615	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1616	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1617	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1618	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1619	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1620	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1621	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1622	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1623	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1624	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1625	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1626	NRSA02J-563X	MG RESISTOR	56kΩ 1/10W J
R1627	NRSA02J-563X	MG RESISTOR	56kΩ 1/10W J
R1628	NRSA02J-563X	MG RESISTOR	56kΩ 1/10W J
R1629	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R1630	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1631	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R1632	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1633	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1634	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1635	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1636	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1637	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1638	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1639	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1640	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1641	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1642	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R1644	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J
R1645	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J
R1646	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J
R1647	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1648	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1649	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1651	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J
R1652	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J
R1653	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J
R1654	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J

⚠Ref No.	Part No.	Part Name	Description Local
R1655	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J
R1656	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J
R1657	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J
R1658	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J
R1659	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1660	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J
R1663	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1664	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1671	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J
R1672	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1673	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1674	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J
R1675	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1676	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1677	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1678	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J
R1679	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1680	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1681	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1682	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J
R1683	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1684	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R1685	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1686	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1687	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1688	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1689	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1690	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J
R1693	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1694	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1697	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1701	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R1815	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1816	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1817	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1818	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1819	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1820	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1825	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1826	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1827	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1828	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1829	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1833	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1834	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1835	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1836	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1846	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1847	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1848	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1850	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1851	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1852	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1853	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1854	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1855	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1856	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1859	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1860	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1861	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1869	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1875	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1876	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1877	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R1882	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1890	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R1891	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1892	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1893	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1897	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1898	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1901	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1902	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1903	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1904	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1905	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1906	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1907	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1911	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1912	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1913	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R1914	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J
R1915	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J
R1916	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J
R1917	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1918	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J
R1919	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1920	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1921	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1922	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R1923	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J
R1924	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J
R1925	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R1926	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J
R1927	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
RA1131	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4
RA1135	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1136	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1801	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1802	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1803	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4
RA1804	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4
RA1805	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4
RA1806	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1807	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1808	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1809	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1810	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4
RA1811	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1812	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1813	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
RA1814	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
K1101	NQR0357-002X	FERRITE BEADS	
K1102	NQR0357-002X	FERRITE BEADS	
K1103	NQR0357-002X	FERRITE BEADS	
X1601	CE40749-001Z	CRYSTAL	
X1602	CE40668-001Z	CRYSTAL	
X1603	CSB503F30	C RESONATOR	
X1801	CST4.00MGW	CERAMIC RESONAT	

MAIN P.W.BOARD ASS'Y (FX-2091A)

⚠Ref No.	Part No.	Part Name	Description Local
IC2401	AN5539-LF	IC	
IC2510	JLC1562BN	IC	
IC2601	UPC4556C	IC	
IC2801	AN5265	IC	
⚠IC2901	STR-F6658B/F7	IC	
⚠IC2902	QAL0256-001	IC	
IC2903	SE140N	IC	
IC2904	TA79012S	IC	
IC2905	BA12T	IC	
IC2906	BA05T	IC	
IC2907	SI-8050S	IC	
IC2911	PQ30RV21	IC	
Q2401	2SC3311A/QR/-T	TRANSISTOR	
Q2501	IRF9630	POWER MOS FET	
⚠Q2502	2SC5570	POW TRANSISTOR	
Q2503	2SC3311A/QR/-T	TRANSISTOR	
Q2504	2SA1309A/QR/-T	TRANSISTOR	
Q2505	2SC3311A/QR/-T	TRANSISTOR	
Q2506	2SB946/P/	POW TRANSISTOR	
Q2507	IRFZ14	POWER MOS FET	
Q2508	2SC3311A/QR/-T	TRANSISTOR	
Q2511	2SC3311A/QR/-T	TRANSISTOR	
Q2512	DTC114ESA-T	DIGI TRANSISTOR	
Q2513	2SA1370/E/	TRANSISTOR	
Q2514	DTC124ESA-T	DIGI TRANSISTOR	
Q2550	2SK2459N-F54	POWER MOS FET	
Q2551	2SK2477	POWER MOS FET	
Q2601	2SC3311A/QR/-T	TRANSISTOR	
Q2602	2SD1271A/P/	POW TRANSISTOR	
Q2603	2SB861/C/	POW TRANSISTOR	2SB861W/C/
Q2604	2SC1505/MLK/	POW TRANSISTOR	
Q2605	2SK2043-CB14	FET	
Q2901	2SA1309A/QR/-T	TRANSISTOR	
Q2902	2SA1309A/QR/-T	TRANSISTOR	
Q2903	2SA1370/E/	TRANSISTOR	
Q2904	2SA1370/E/	TRANSISTOR	
Q2905	2SC3311A/QR/-T	TRANSISTOR	
Q2906	2SA1309A/QR/-T	TRANSISTOR	
Q2910	2SC3311A/QR/-T	TRANSISTOR	
Q2911	2SC2229/Y/	TRANSISTOR	
D2402	RD33E/B2/-T2	Z DIODE	
D2403	RD33E/B2/-T2	Z DIODE	
D2404	1SR35-400A-T2	SI DIODE	
D2412	1SS133-T2	DIODE	

⚠Ref No.	Part No.	Part Name	Description Local
D2501	1SS244-T2	SI DIODE	
D2502	MTZJ12C-T2	Z DIODE	
D2503	MTZJ12C-T2	Z DIODE	
D2504	RL4Z-F1	SI DIODE	
D2505	1SS133-T2	DIODE	
D2506	1SS133-T2	DIODE	
D2507	1SS133-T2	DIODE	
⚠D2508	RGP10J-5025-T3	SI DIODE	
D2509	MTZJ5.6B-T2	Z DIODE	
D2510	MTZJ5.6B-T2	Z DIODE	
D2511	1SS133-T2	DIODE	
D2512	AG01Z-T2	SI DIODE	
D2513	1SS244-T2	SI DIODE	
D2514	AG01Z-T2	SI DIODE	
D2515	MTZJ5.1B-T2	Z DIODE	
D2516	1SS133-T2	DIODE	
D2517	RK14-T3	SB DIODE	
D2520	RU4DS-F1	SI DIODE	
D2521	CTU-G3DR	SI DIODE	
D2522	RG2A2-LFC4	SI DIODE	
D2523	1SS244-T2	SI DIODE	
D2524	RG1C-LFA1	SI DIODE	
D2525	RG1C-LFA1	SI DIODE	
D2550	1SR35-400A-T2	SI DIODE	
D2551	1SR35-400A-T2	SI DIODE	
⚠D2552	RGP10J-5025-T3	SI DIODE	
⚠D2555	RGP10J-5025-T3	SI DIODE	
D2602	MTZJ5.1B-T2	Z DIODE	
D2603	MTZJ27B-T2	Z DIODE	
D2801	MTZJ11A-T2	Z DIODE	
D2802	1SS133-T2	DIODE	
⚠D2901	RBV-406M	BRIDGE DIODE	
D2902	RU2-LFA1	SI DIODE	
D2903	AG01Z-T2	SI DIODE	
D2904	AG01Z-T2	SI DIODE	
D2908	RM2C-LFA1	SI DIODE	
D2909	AG01-T2	SI DIODE	
D2910	SF6L20U	SI DIODE	
D2911	RG2A-LFC4	SI DIODE	
D2912	RG2A-LFC4	SI DIODE	
D2913	RU3YX-LFC4	SI DIODE	
D2914	1SS133-T2	DIODE	
D2915	1SS133-T2	DIODE	
D2916	MTZJ3.3A-T2	Z DIODE	
D2917	MTZJ3.3A-T2	Z DIODE	
D2918	1SS133-T2	DIODE	
D2919	MTZJ12C-T2	Z DIODE	
D2920	MTZJ12C-T2	Z DIODE	
D2921	1SS133-T2	DIODE	
D2922	1SS133-T2	DIODE	
D2923	1SS133-T2	DIODE	
D2925	S1WB/A/80-4101	BRIDGE DIODE	
D2950	RK44-LFT4	SB DIODE	
D2951	MTZJ5.6B-T2	Z DIODE	
D2952	1SS133-T2	DIODE	
⚠PC2901	TLP721F(D4-GR)	PHOTO COUPLER	
⚠PC2902	TLP759F/D4/	PHOTO COUPLER	
C2401	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J
C2402	QFV71HJ-334Z	MF CAPACITOR	0.33uF 50V J
C2403	QCS31HJ-121Z	C CAPACITOR	120pF 50V J
C2404	QTMN1VM-107Z	E CAPACITOR	100uF 35V M
C2405	QCB32HK-151Z	C CAPACITOR	150pF 500V K
C2406	QFLC1HJ-563Z	M CAPACITOR	0.056uF 50V J
C2408	QFV71HJ-154Z	MF CAPACITOR	0.15uF 50V J
C2409	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2420	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2501	QEZ0368-227	E CAPACITOR	220uF 200V M
C2502	QFLC2AK-224Z	M CAPACITOR	0.22uF 100V K
C2503	QCB32HK-151Z	C CAPACITOR	150pF 500V K
C2504	QEZ0097-106R	E CAPACITOR	106pF
C2506	QCB32HK-472Z	C CAPACITOR	4700pF 500V K
C2507	QFLC1HJ-222Z	M CAPACITOR	2200pF 50V J
C2508	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2509	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2510	QFV71HJ-474Z	MF CAPACITOR	0.47uF 50V J
C2511	QFLC1HJ-122Z	M CAPACITOR	1200pF 50V J
C2512	QTMN1EM-227Z	E CAPACITOR	220uF 25V M
C2513	QFLC1HJ-472Z	M CAPACITOR	4700pF 50V J
C2514	QFLC1HJ-472Z	M CAPACITOR	4700pF 50V J
C2515	QFLC1HJ-392Z	M CAPACITOR	3900pF 50V J
C2516	QFLC2AK-224Z	M CAPACITOR	0.22uF 100V K
C2517	QEHR1HM-105Z	E CAPACITOR	1uF 50V M
C2518	QEHR1HM-476Z	E CAPACITOR	47uF 50V M
C2520	QFZ0196-202	MPP CAPACITOR	2000pF 1.5kV H
⚠C2521	QFZ0196-302	MPP CAPACITOR	3000pF 1.5kV H

⚠Ref No.	Part No.	Part Name	Description Local
C2522	QFLC1HJ-823Z	M CAPACITOR	0.082uF 50V J
⚠C2523	QFZ0196-302	MPP CAPACITOR	3000pF 1.5kV H
C2526	QCS31HJ-471Z	C CAPACITOR	470pF 50V J
C2527	QFLC1HJ-472Z	M CAPACITOR	4700pF 50V J
C2528	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C2550	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M
C2551	QFV71HJ-274Z	MF CAPACITOR	0.27uF 50V J
C2552	QFZ0196-102	MPP CAPACITOR	1000pF 1.5kV H
C2553	QFV71HJ-274Z	MF CAPACITOR	0.27uF 50V J
C2554	QEHQ2AM-227	E CAPACITOR	220uF 100V M
C2555	QFK62AK-334Z	MM CAPACITOR	0.33uF 100V K
C2557	QEHR1EM-337Z	E CAPACITOR	330uF 25V M
C2558	QTNC1HM-105Z	E CAPACITOR	1uF 50V M
C2559	QEHR1HM-105Z	E CAPACITOR	1uF 50V M
C2560	QEHR1HM-105Z	E CAPACITOR	1uF 50V M
C2562	QEHR2CM-336Z	E CAPACITOR	33uF 160V M
C2570	QEHR1HM-105Z	E CAPACITOR	1uF 50V M
C2571	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2601	QTNC1HM-225Z	E CAPACITOR	2.2uF 50V M
C2602	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2603	QCS31HJ-150Z	C CAPACITOR	15pF 50V J
C2604	QEHR2CM-336Z	E CAPACITOR	33uF 160V M
C2605	QTNC1HM-106Z	E CAPACITOR	10uF 50V M
C2606	QFLC1HJ-472Z	M CAPACITOR	4700pF 50V J
C2607	QTNC1HM-225Z	E CAPACITOR	2.2uF 50V M
C2608	QCS32HJ-271Z	C CAPACITOR	270pF 500V J
C2609	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2610	QCB32HK-391Z	C CAPACITOR	390pF 500V K
C2620	QTMN1HM-336Z	E CAPACITOR	33uF 50V M
C2621	QFLC1HJ-563Z	M CAPACITOR	0.056uF 50V J
C2801	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2802	QTNC1HM-105Z	E CAPACITOR	1uF 50V M
C2803	QFLC1HJ-332Z	M CAPACITOR	3300pF 50V J
C2804	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M
C2805	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2806	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M
C2807	QEHR1HM-336Z	E CAPACITOR	33uF 50V M
C2808	QEHR1HM-336Z	E CAPACITOR	33uF 50V M
C2809	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2810	QFV71HJ-104Z	MF CAPACITOR	0.1uF 50V J
C2811	QFV71HJ-104Z	MF CAPACITOR	0.1uF 50V J
C2812	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2813	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2814	QEHR1CM-227Z	E CAPACITOR	220uF 16V M
⚠C2901	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
⚠C2902	QCZ9078-472	C CAPACITOR	4700pF AC250V M
⚠C2903	QCZ9078-472	C CAPACITOR	4700pF AC250V M
⚠C2904	QCZ9078-472	C CAPACITOR	4700pF AC250V M
⚠C2905	QCZ9078-472	C CAPACITOR	4700pF AC250V M
⚠C2906	QEHQ2GM-226	E CAPACITOR	22uF 400V M
C2908	QEZ0587-567	E CAPACITOR	560uF 400V M
C2909	QCB32HK-472Z	C CAPACITOR	4700pF 500V K
C2910	QTMN1EM-107Z	E CAPACITOR	100uF 25V M
C2911	QCS31HJ-471Z	C CAPACITOR	470pF 50V J
⚠C2912	QCZ9075-472	C CAPACITOR	4700pF M
⚠C2913	QCZ9075-472	C CAPACITOR	4700pF M
⚠C2914	QFZ9036-224	MF CAPACITOR	0.22uF AC250V M
C2915	QCZ0122-681	C CAPACITOR	680pF 2kV K
C2916	QCB32HK-271Z	C CAPACITOR	270pF 500V K
C2917	QCB32HK-271Z	C CAPACITOR	270pF 500V K
C2918	QCB32HK-271Z	C CAPACITOR	270pF 500V K
C2919	QCB32HK-271Z	C CAPACITOR	270pF 500V K
C2920	QTMN1EM-337Z	E CAPACITOR	330uF 25V M
C2921	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2922	QTMN1EM-337Z	E CAPACITOR	330uF 25V M
C2923	QEZ0368-227	E CAPACITOR	220uF 200V M
C2924	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2925	QEZ0368-227	E CAPACITOR	220uF 200V M
C2926	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2927	QTMM1EM-228	E CAPACITOR	2200uF 25V M
C2928	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2929	QFV71HJ-224Z	MF CAPACITOR	0.22uF 50V J
C2930	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2931	QEZ0256-228	E CAPACITOR	2200uF 10V M
C2932	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2933	QEZ0256-128	E CAPACITOR	1200uF 10V M
C2934	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2935	QEHR1EM-477Z	E CAPACITOR	470uF 25V M
C2936	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C2937	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C2939	QTMN1CM-107Z	E CAPACITOR	100uF 16V M
C2940	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J
C2941	QFLC1HJ-102Z	M CAPACITOR	1000pF 50V J
C2942	QTNC1HM-106Z	E CAPACITOR	10uF 50V M
C2943	QFLC1HJ-102Z	M CAPACITOR	1000pF 50V J
C2944	QTMN1EM-477Z	E CAPACITOR	470uF 25V M
⚠C2945	QCZ9078-472	C CAPACITOR	4700pF AC250V M

⚠Ref No.	Part No.	Part Name	Description Local
⚠C2946	QCZ9078-472	C CAPACITOR	4700pF AC250V M
C2947	QFVF1HJ-824Z	MF CAPACITOR	0.82uF 50V J
C2950	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C2952	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C2953	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J
C2954	QEHR1CM-227Z	E CAPACITOR	220uF 16V M
C2955	QEHR2CM-335Z	E CAPACITOR	3.3uF 160V M
C2958	QTMN1EM-107Z	E CAPACITOR	100uF 25V M
R2401	QRE141J-122Y	C RESISTOR	1.2kΩ 1/4W J
R2402	QRA14CF-2611Y	CMF RESISTOR	2.61kΩ 1/4W F
R2403	QRA14CF-2611Y	CMF RESISTOR	2.61kΩ 1/4W F
R2404	QRA14CF-2491Y	CMF RESISTOR	2.49kΩ 1/4W F
R2405	QRA14CF-3091Y	CMF RESISTOR	3.09kΩ 1/4W F
R2406	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R2407	QRE141J-0R0Y	C RESISTOR	0Ω 1/4W J
R2408	QRA14CF-3900Y	CMF RESISTOR	390Ω 1/4W F
R2409	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2410	QRX029J-1R5	MF RESISTOR	1.5Ω 2W J
R2411	QRE121J-8R2Y	C RESISTOR	8.2Ω 1/2W J
R2412	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2413	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R2414	QRE141J-331Y	C RESISTOR	330Ω 1/4W J
R2419	QRG01GJ-331	OMF RESISTOR	330Ω 1W J
R2422	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J
R2430	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2501	QRE141J-184Y	C RESISTOR	180kΩ 1/4W J
R2502	QRE141J-122Y	C RESISTOR	1.2kΩ 1/4W J
R2503	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J
R2504	QRA14CF-3302Y	CMF RESISTOR	33kΩ 1/4W F
⚠R2505	QRA14CF-2202Y	CMF RESISTOR	22kΩ 1/4W F
⚠R2508	QRA14CF-5601Y	CMF RESISTOR	5.6kΩ 1/4W F
R2509	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2510	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
R2511	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2512	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R2513	QRE141J-100Y	C RESISTOR	10Ω 1/4W J
R2514	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J
R2515	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J
R2516	QRG01GJ-470	OMF RESISTOR	47Ω 1W J
R2517	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2518	QRX01GJ-R68	MF RESISTOR	0.68Ω 1W J
R2519	QRX039J-1R0	MF RESISTOR	1Ω 3W J
R2520	QRG039J-100	OMF RESISTOR	10Ω 3W J
R2521	QRE121J-101Y	C RESISTOR	100Ω 1/2W J
R2522	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R2523	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R2524	QRX029J-1R8	MF RESISTOR	1.8Ω 2W J
R2525	QRE121J-124Y	C RESISTOR	120kΩ 1/2W J
R2526	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2527	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2528	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2529	QRE141J-0R0Y	C RESISTOR	0Ω 1/4W J
R2530	QRE121J-121Y	C RESISTOR	120Ω 1/2W J
R2531	QRE121J-471Y	C RESISTOR	470Ω 1/2W J
R2532	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2533	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2534	QRL029J-101	OMF RESISTOR	100Ω 2W J
R2535	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J
R2536	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2537	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2538	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2539	QRE141J-471Y	C RESISTOR	470Ω 1/4W J
R2540	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2541	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2543	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2544	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2545	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2546	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2547	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2548	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2549	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2550	QRM059J-R15	MP RESISTOR	0.15Ω 5W J
R2551	QRE121J-152Y	C RESISTOR	1.5kΩ 1/2W J
⚠R2552	QRA14CF-2203Y	CMF RESISTOR	220kΩ 1/4W F
R2553	QRG029J-330	OMF RESISTOR	33Ω 2W J
R2555	QRE141J-393Y	C RESISTOR	39kΩ 1/4W J
⚠R2556	QRZ9017-2R2	FUSI RESISTOR	2.2Ω 1/4W J
R2557	QRE121J-330Y	C RESISTOR	33Ω 1/2W J
R2558	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2559	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2561	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2562	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R2563	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R2564	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2566	QRE121J-471Y	C RESISTOR	470Ω 1/2W J
R2601	QRE141J-682Y	C RESISTOR	6.8kΩ 1/4W J
R2602	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J
R2603	QRE141J-273Y	C RESISTOR	27kΩ 1/4W J
R2604	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2605	QRE121J-332Y	C RESISTOR	3.3kΩ 1/2W J
R2606	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J
R2607	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J
R2608	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2609	QRE141J-823Y	C RESISTOR	82kΩ 1/4W J
R2610	QRE141J-100Y	C RESISTOR	10Ω 1/4W J
R2611	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J
R2612	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J
R2613	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2615	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2616	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2620	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J
R2621	QRE141J-474Y	C RESISTOR	470kΩ 1/4W J
R2622	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R2623	QRE121J-683Y	C RESISTOR	68kΩ 1/2W J
R2624	QRE141J-271Y	C RESISTOR	270Ω 1/4W J
R2801	QRE121J-181Y	C RESISTOR	180Ω 1/2W J
R2802	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J
R2803	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2804	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2805	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2807	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R2808	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
R2809	QRE141J-100Y	C RESISTOR	10Ω 1/4W J
⚠R2810	QRZ9021-8R2	FUSI RESISTOR	8.2Ω 1W J
R2901	QRG039J-683	OMF RESISTOR	68kΩ 3W J
R2902	QRM059J-R15	MP RESISTOR	0.15Ω 5W J
R2903	QRM059J-R15	MP RESISTOR	0.15Ω 5W J
⚠R2904	QRK126J-681X	UNF C RESISTOR	680Ω 1/2W J
R2905	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R2906	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2907	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R2910	QRL029J-683	OMF RESISTOR	68kΩ 2W J
R2911	QRE121J-220Y	C RESISTOR	22Ω 1/2W J
R2920	QRE141J-3R3Y	C RESISTOR	3.3Ω 1/4W J
R2921	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2922	QRE141J-392Y	C RESISTOR	3.9kΩ 1/4W J
R2923	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2924	QRE141J-122Y	C RESISTOR	1.2kΩ 1/4W J
R2925	QRE141J-5R6Y	C RESISTOR	5.6Ω 1/4W J
R2926	QRE141J-5R6Y	C RESISTOR	5.6Ω 1/4W J
R2927	QRE141J-120Y	C RESISTOR	12Ω 1/4W J
R2929	QRE141J-1R5Y	C RESISTOR	1.5Ω 1/4W J
R2930	QRE141J-1R5Y	C RESISTOR	1.5Ω 1/4W J
R2931	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J
R2932	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2933	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2934	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J
R2935	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
R2936	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2937	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2938	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J
R2939	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J
R2940	QRE141J-1R5Y	C RESISTOR	1.5Ω 1/4W J
⚠R2941	QRA14CF-1501Y	CMF RESISTOR	1.5kΩ 1/4W F
⚠R2942	QRA14CF-3900Y	CMF RESISTOR	390Ω 1/4W F
R2943	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R2944	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2945	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J
R2946	QRE141J-1R5Y	C RESISTOR	1.5Ω 1/4W J
R2947	QRE141J-3R3Y	C RESISTOR	3.3Ω 1/4W J
R2948	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2949	QRE121J-152Y	C RESISTOR	1.5kΩ 1/2W J
R2970	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2971	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2972	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R2973	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R2974	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J
R2975	QRL039J-562	OMF RESISTOR	5.6kΩ 3W J
R2976	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
R2977	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
R2978	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
R2979	QRE121J-271Y	C RESISTOR	270Ω 1/2W J
L2501	QQLZ020-801	COIL	800uH
L2502	QQR0666-003	LINEARITY COIL	
L2503	QQR0666-003	LINEARITY COIL	
L2504	QQLZ020-801	COIL	800uH
L2505	QQL26AK-821Z	COIL	820uH K
L2551	QQLZ018-380	COIL	38uH
L2553	QQL50AK-221Z	COIL	220uH K
L2801	QQL244K-4R7Z	COIL	4.7uH K
⚠L2901	QQR0676-004	LINE FILTER	
⚠L2902	QQR0646-006	CHOKE COIL	

⚠Ref No.	Part No.	Part Name	Description Local
L2904	QQL244K-100Z	COIL	10uH K
L2910	QQR0518-001	CHOKE COIL	
L2911	QQL50AK-100Z	COIL	10uH K
T2501	QQR0663-001	DRIVE TRANSF	
⚠T2502	QQS0153-001	SW TRANSF	
⚠T2503	QQH0087-001	FB TRANSF	
T2601	CE42710-001	DAF TRANSF	
⚠T2901	QQS0091-001	SW TRANSF	
⚠CP2901	QMFZ034-100Z-J1	FUSE	10A 125V
⚠CP2904	ICP-N75-Y	IC PROTECTOR	2.7A
⚠F2901	QMF51D2-6R3J1	FUSE	6.3A AC250V
K2501	QQR0872-002	FERRITE BEADS	
K2502	QQR0872-001Y	FERRITE BEADS	
⚠RY2901	QSK0119-001	RELAY	
⚠RY2902	QSK0119-001	RELAY	
SG2501	CE42447-242	ARRESTOR	
⚠TH2901	QAD0137-4R5	P THERMISTOR	4.5Ω
TP2001	CM42818-001	TAB	
TP2002	CM42818-001	TAB	
⚠Z2901	ERZV10V621CS	ZNR	
	CE41667-003	RADIATION SHEET	
	CEMG002-001Z	FUSE CLIP	(x2)

S.CORRECTION P.W.BOARD ASS'Y (FX-2115A)

⚠Ref No.	Part No.	Part Name	Description Local
IC2501	LA6515	IC	
IC2502	BA15218N	IC	Dual Ope. Amp.
Q2501	IRF640	POWER MOS FET	
Q2502	IRF640	POWER MOS FET	
Q2503	IRF640	POWER MOS FET	
Q2504	IRF640	POWER MOS FET	
Q2507	2SC3311A/QR/-T	TRANSISTOR	
Q2508	2SC3311A/QR/-T	TRANSISTOR	
Q2509	2SC3311A/QR/-T	TRANSISTOR	
Q2511	2SC3311A/QR/-T	TRANSISTOR	
Q2512	2SC3311A/QR/-T	TRANSISTOR	
Q2515	IRF640	POWER MOS FET	
Q2516	IRF640	POWER MOS FET	
D2501	1SS133-T2	DIODE	
D2502	1SS244-T2	SI DIODE	
D2503	RG2A2-LFC4	SI DIODE	
D2520	1SS133-T2	DIODE	
D2521	1SS133-T2	DIODE	
D2522	1SS133-T2	DIODE	
D2523	1SS133-T2	DIODE	
D2524	1SS133-T2	DIODE	
D2525	1SS133-T2	DIODE	
C2501	QFZ0197-335	MPP CAPACITOR	3.3uF 250V J
C2502	QFZ0197-105	MPP CAPACITOR	1uF 250V J
C2504	QFZ0197-824	MPP CAPACITOR	0.82uF 250V J
C2505	QFZ0197-754	MPP CAPACITOR	0.75uF 250V J
C2506	QFLC1HJ-473Z	M CAPACITOR	0.047uF 50V J
C2507	QFLC1HJ-473Z	M CAPACITOR	0.047uF 50V J
C2508	QFLC1HJ-153Z	M CAPACITOR	0.015uF 50V J
C2511	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C2512	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C2513	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C2514	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C2515	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J
C2516	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C2517	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C2518	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J
C2519	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J
R2501	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2502	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2503	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2504	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J
⚠R2505	QRA14CF-9312Y	CMF RESISTOR	93.1kΩ 1/4W F
R2506	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R2507	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R2508	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R2510	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R2511	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J
R2512	QRZ0121-561	UNF WW RESISTOR	560Ω 5W J
⚠R2513	QRA14CF-2202Y	CMF RESISTOR	22kΩ 1/4W F
R2514	QRL029J-101	OMF RESISTOR	100Ω 2W J
R2515	QRL029J-470	OMF RESISTOR	47Ω 2W J
R2516	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R2517	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J
R2518	QRE141J-273Y	C RESISTOR	27kΩ 1/4W J
R2519	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R2520	QRE141J-182Y	C RESISTOR	1.8kΩ 1/4W J
R2521	QRE141J-682Y	C RESISTOR	6.8kΩ 1/4W J
R2524	QRG01GJ-560	OMF RESISTOR	56Ω 1W J
R2525	QRE141J-681Y	C RESISTOR	680Ω 1/4W J
R2526	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2527	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2528	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2529	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
R2530	QRG01GJ-391	OMF RESISTOR	390Ω 1W J
R2531	QRG01GJ-391	OMF RESISTOR	390Ω 1W J
L2501	QQR0666-001	LINEARITY COIL	
L2502	QQR0664-002	CHOKE COIL	
⚠RY2501	CESK028-001	RELAY	
S2501	QSL4A13-C03Z	LEVER SWITCH	H.CENT
TP-G	CM42818-001	TAB	
TP-XR	CM42818-001	TAB	
VR2501	QVP0086-502Z	TRIM RESISTOR	X.RAY
VR2502	QVP0086-503Z	TRIM RESISTOR	H.VOLTAGE
VR2504	QVP0086-103Z	TRIM RESISTOR	CONV_H
VR2505	QVP0086-103Z	TRIM RESISTOR	CONV_L

CRT SOCKET P.W.BOARD ASS'Y (FX-3072A)

⚠Ref No.	Part No.	Part Name	Description Local
Q3001	2SC1505/MLK/	POW TRANSISTOR	
Q3002	2SA965/OY/	TRANSISTOR	
Q3003	2SC2235/OY/	TRANSISTOR	
Q3004	2SC2229/Y/	TRANSISTOR	
Q3007	2SC2412K/QR/-X	TRANSISTOR	
Q3008	2SA1037AK/QR/-X	TRANSISTOR	
Q3009	2SC2412K/QR/-X	TRANSISTOR	
Q3010	2SC2412K/QR/-X	TRANSISTOR	
Q3011	2SC2229/Y/	TRANSISTOR	
Q3012	2SC2412K/QR/-X	TRANSISTOR	
Q3013	2SA1037AK/QR/-X	TRANSISTOR	
Q3101	2SC3950/CDE/	POW TRANSISTOR	
Q3102	2SC4474/D/	POW TRANSISTOR	
Q3103	2SC3955/D/	POW TRANSISTOR	
Q3104	2SA1540/D/	POW TRANSISTOR	
Q3105	2SC3334	TRANSISTOR	
Q3106	2SA1321	TRANSISTOR	
Q3201	2SC3950/CDE/	POW TRANSISTOR	
Q3202	2SC4474/D/	POW TRANSISTOR	
Q3203	2SC3955/D/	POW TRANSISTOR	
Q3204	2SA1540/D/	POW TRANSISTOR	
Q3205	2SC3334	TRANSISTOR	
Q3206	2SA1321	TRANSISTOR	
Q3301	2SC3950/CDE/	POW TRANSISTOR	
Q3302	2SC4474/D/	POW TRANSISTOR	
Q3303	2SC3955/D/	POW TRANSISTOR	
Q3304	2SA1540/D/	POW TRANSISTOR	
Q3305	2SC3334	TRANSISTOR	
Q3306	2SA1321	TRANSISTOR	
D3001	MA111-X	SI DIODE	
D3002	MA111-X	SI DIODE	
D3003	1SS82-T2	SI DIODE	
D3004	1SR124-400A-T2	SI DIODE	
D3005	1SR124-400A-T2	SI DIODE	
D3006	MA111-X	SI DIODE	
D3007	MA3051/M/-X	Z DIODE	
D3008	RU2-T3	SI DIODE	
D3009	1SS82-T2	SI DIODE	
D3010	MA111-X	SI DIODE	
D3011	MA111-X	SI DIODE	
D3013	MA111-X	SI DIODE	
D3014	MA3110/M/-X	Z DIODE	
D3015	MA111-X	SI DIODE	
D3016	MA111-X	SI DIODE	
D3017	MA111-X	SI DIODE	
D3018	MA3024-X	Z DIODE	
D3101	MA111-X	SI DIODE	
D3102	MA111-X	SI DIODE	
D3103	MA111-X	SI DIODE	
D3104	MA111-X	SI DIODE	
D3105	MA111-X	SI DIODE	

⚠Ref No.	Part No.	Part Name	Description Local
D3106	MA111-X	SI DIODE	
D3107	MA111-X	SI DIODE	
D3201	MA111-X	SI DIODE	
D3202	MA111-X	SI DIODE	
D3203	MA111-X	SI DIODE	
D3204	MA111-X	SI DIODE	
D3205	MA111-X	SI DIODE	
D3206	MA111-X	SI DIODE	
D3207	MA111-X	SI DIODE	
D3301	MA111-X	SI DIODE	
D3302	MA111-X	SI DIODE	
D3303	MA111-X	SI DIODE	
D3304	MA111-X	SI DIODE	
D3305	MA111-X	SI DIODE	
D3306	MA111-X	SI DIODE	
D3307	MA111-X	SI DIODE	
C3001	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C3002	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C3003	QEZ0368-227	E CAPACITOR	220uF 200V M
C3004	NDC21HJ-471X	C CAPACITOR	470pF 50V J
C3005	QFP32GK-563	PP CAPACITOR	0.056uF 400V K
C3006	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C3007	QFM72DJ-152Z	M CAPACITOR	1500pF 200V J
C3008	QCZ0324-102	C CAPACITOR	1000pF 3kV P
C3009	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C3010	QEHQ2EM-336	E CAPACITOR	33uF 250V M
C3011	QEZ0368-227	E CAPACITOR	220uF 200V M
C3012	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C3013	QFV71HJ-154Z	MF CAPACITOR	0.15uF 50V J
C3101	NDC21HJ-391X	C CAPACITOR	390pF 50V J
C3102	NDC21HJ-820X	C CAPACITOR	82pF 50V J
C3103	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C3201	NDC21HJ-331X	C CAPACITOR	330pF 50V J
C3202	NDC21HJ-101X	C CAPACITOR	100pF 50V J
C3203	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
C3301	NDC21HJ-391X	C CAPACITOR	390pF 50V J
C3302	NDC21HJ-151X	C CAPACITOR	150pF 50V J
C3303	NCB21HK-103X	C CAPACITOR	0.01uF 50V K
R3001	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3002	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R3003	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3004	NRSA02J-680X	MG RESISTOR	68Ω 1/10W J
R3005	QRL029J-152	OMF RESISTOR	1.5kΩ 2W J
R3006	QRL029J-182	OMF RESISTOR	1.8kΩ 2W J
R3007	QRK126J-474X	UNF C RESISTOR	470kΩ 1/2W J
⚠R3008	QRZ9017-471	FUSI RESISTOR	470Ω 1/4W J
R3009	QRK126J-223X	UNF C RESISTOR	22kΩ 1/2W J
R3011	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3012	QRK126J-152X	UNF C RESISTOR	1.5kΩ 1/2W J
⚠R3013	QRZ9011-100	FUSI RESISTOR	10Ω 1/2W J
⚠R3014	QRZ9011-100	FUSI RESISTOR	10Ω 1/2W J
R3015	QRC121K-473Z	COMP RESISTOR	47kΩ 1/2W K
R3017	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J
R3018	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
⚠R3021	QRK126J-102X	UNF C RESISTOR	1kΩ 1/2W J
R3022	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J
R3023	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3024	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R3025	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3026	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J
R3027	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J
R3028	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J
R3029	QRK126J-473X	UNF C RESISTOR	47kΩ 1/2W J
R3031	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R3033	QRK126J-104X	UNF C RESISTOR	100kΩ 1/2W J
R3034	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J
R3035	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J
R3036	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3037	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R3038	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J
R3039	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R3040	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J
R3101	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3102	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3103	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3104	NRSA02J-390X	MG RESISTOR	39Ω 1/10W J
R3105	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3106	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
R3107	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
⚠R3108	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3109	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3110	QRZ9017-471	FUSI RESISTOR	470Ω 1/4W J
R3111	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J
R3112	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R3115	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R3116	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J
R3117	QRC121K-101Z	COMP RESISTOR	100Ω 1/2W K
R3201	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3202	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3203	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3204	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3205	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3206	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
R3207	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
⚠R3208	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3209	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3210	QRZ9017-471	FUSI RESISTOR	470Ω 1/4W J
R3211	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J
R3212	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R3215	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R3217	QRC121K-101Z	COMP RESISTOR	100Ω 1/2W K
R3301	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3302	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3303	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J
R3304	NRSA02J-390X	MG RESISTOR	39Ω 1/10W J
R3305	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R3306	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
R3307	QRL039J-472	OMF RESISTOR	4.7kΩ 3W J
⚠R3308	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3309	QRZ9017-150	FUSI RESISTOR	15Ω 1/4W J
⚠R3310	QRZ9017-471	FUSI RESISTOR	470Ω 1/4W J
R3311	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J
R3312	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R3315	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R3316	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J
R3317	QRC121K-101Z	COMP RESISTOR	100Ω 1/2W K
L3001	QQL01BK-102Z	P COIL	1mH K
L3002	QQL50AK-330Z	COIL	33uH K
L3102	QQL01BK-2R2Z	P COIL	2.2uH K
L3202	QQL01BK-1R8Z	P COIL	1.8uH K
L3302	QQL01BK-2R2Z	P COIL	2.2uH K
SG3001	CE42447-242	ARRESTOR	
SG3101	QAF0006-201	SURGE ABSORBER	200V
SG3201	QAF0006-201	SURGE ABSORBER	200V
SG3301	QAF0006-201	SURGE ABSORBER	200V
⚠SK3001	CE42670-002	CRT SOCKET	
TP-47B	CM42818-001	TAB	
TP-47G	CM42818-001	TAB	
TP-47R	CM42818-001	TAB	
TP-GND	CM42818-001	TAB	

FRONT CONTROL P.W.BOARD ASS'Y (FX-4075A)

⚠Ref No.	Part No.	Part Name	Description Local
IC4101	JLC1562BF-X	IC	
Q4101	2SA1037AK/QR/-X	TRANSISTOR	
Q4102	2SC2412K/QR/-X	TRANSISTOR	
Q4103	2SC2412K/QR/-X	TRANSISTOR	
Q4104	2SC2412K/QR/-X	TRANSISTOR	
Q4105	2SC2412K/QR/-X	TRANSISTOR	
Q4106	2SA1037AK/QR/-X	TRANSISTOR	
Q4107	2SA1037AK/QR/-X	TRANSISTOR	
Q4108	2SA1037AK/QR/-X	TRANSISTOR	
Q4109	2SA1037AK/QR/-X	TRANSISTOR	
Q4110	2SA1037AK/QR/-X	TRANSISTOR	
Q4111	2SA1037AK/QR/-X	TRANSISTOR	
Q4112	2SC2412K/QR/-X	TRANSISTOR	
Q4113	2SC2412K/QR/-X	TRANSISTOR	
Q4114	2SC2412K/QR/-X	TRANSISTOR	
Q4120	2SC2412K/QR/-X	TRANSISTOR	
D4101	MA111-X	SI DIODE	
D4102	MA111-X	SI DIODE	
D4103	MA111-X	SI DIODE	
D4104	MA111-X	SI DIODE	
D4105	MA111-X	SI DIODE	
D4106	MA111-X	SI DIODE	
D4107	MA111-X	SI DIODE	
D4108	MA111-X	SI DIODE	
D4109	MA111-X	SI DIODE	
D4110	MA111-X	SI DIODE	
D4111	MA111-X	SI DIODE	
D4112	MA111-X	SI DIODE	
D4113	MA111-X	SI DIODE	
D4114	MA111-X	SI DIODE	

⚠Ref No.	Part No.	Part Name	Description Local
D4115	MA111-X	SI DIODE	
D4116	MA111-X	SI DIODE	
D4117	MA111-X	SI DIODE	
D4118	MA111-X	SI DIODE	
D4119	MA111-X	SI DIODE	
D4120	GL3ED8	LED	POWER
C4101	NEH71CM-476X	E CAPACITOR	47uF 16V M
C4102	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
R4101	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4102	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J
R4103	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4104	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4105	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4106	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4107	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4108	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4109	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4110	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4111	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4112	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4113	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4114	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4119	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4120	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4121	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4122	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4123	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4124	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4125	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4126	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4127	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4128	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4129	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4130	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4131	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J
R4132	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4133	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4134	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4135	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4136	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4137	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4138	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4139	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4140	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4141	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4142	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R4150	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J
R4151	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R4152	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
S4101	QSW0619-003Z	TACT SWITCH	POWER
S4102	QSW0889-001	TACT SWITCH	COLOR OFF
S4103	QSW0889-001	TACT SWITCH	PULSE CROSS
S4104	QSW0889-001	TACT SWITCH	UNDER SCAN
S4105	QSW0889-001	TACT SWITCH	SCREENS CHECK
S4106	QSW0889-001	TACT SWITCH	INPUT F
S4107	QSW0889-001	TACT SWITCH	INPUT E
S4108	QSW0889-001	TACT SWITCH	INPUT D
S4109	QSW0889-001	TACT SWITCH	INPUT C
S4110	QSW0889-001	TACT SWITCH	INPUT B
S4111	QSW0889-001	TACT SWITCH	INPUT A
S4112	QSW0619-003Z	TACT SWITCH	VOLUME -
S4113	QSW0889-001	TACT SWITCH	DEGAUSS
S4114	QSW0889-001	TACT SWITCH	AREA MARKER
S4115	QSW0889-001	TACT SWITCH	ASPECT
S4116	QSW0619-003Z	TACT SWITCH	VOLUME +
S4117	QSW0619-003Z	TACT SWITCH	DOWN
S4118	QSW0619-003Z	TACT SWITCH	UP
S4119	QSW0619-003Z	TACT SWITCH	MENU
	LC40656-001A	LED SPACER(2)	

FROT VR P.W.BOARD ASS'Y (FX-5025A)

⚠Ref No.	Part No.	Part Name	Description Local
D5101	MA3056/M/-X	Z DIODE	
D5102	MA3056/M/-X	Z DIODE	
D5103	MA3056/M/-X	Z DIODE	
D5104	MA3056/M/-X	Z DIODE	
C5101	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C5102	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
R5101	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R5102	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R5103	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R5104	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
VR5101	QVQ0286-B14	V RESISTOR	CONTRAST
VR5102	QVQ0286-B14	V RESISTOR	BRIGHT
VR5103	QVQ0286-B14	V RESISTOR	CHROMA
VR5104	QVQ0286-B14	V RESISTOR	PHASE

MOTHER P.W.BOARD ASS'Y (FX-6141A)

⚠Ref No.	Part No.	Part Name	Description Local
IC6101	TC4052BF/N/-XE	IC	
IC6102	TC4052BF/N/-XE	IC	
IC6103	JLC1562BF-X	IC	
IC6104	M52055FP-X	IC	
IC6105	M52055FP-X	IC	
IC6106	NJM2234M-XE	IC	
IC6107	NJM2234M-XE	IC	
IC6108	NJM2234M-XE	IC	
IC6109	NJM2234M-XE	IC	
IC6110	TC4052BF/N/-XE	IC	
IC6111	M52055FP-X	IC	
IC6201	BA12FP-X	IC	
IC6202	BA05FP-X	IC	
Q6101	2SC2412K/QR/-X	TRANSISTOR	
Q6102	2SC2412K/QR/-X	TRANSISTOR	
Q6103	2SC2412K/QR/-X	TRANSISTOR	
C6101	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6102	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C6103	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6104	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C6105	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6106	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6107	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6108	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6109	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6110	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6111	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6112	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6113	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6114	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6115	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6116	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6117	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6118	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6119	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6120	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C6121	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6122	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6123	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6124	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6125	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6126	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6127	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6128	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6129	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6130	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6131	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6132	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6133	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6137	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6138	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C6139	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6140	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6141	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6142	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6143	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6145	NDC21HJ-100X	C CAPACITOR	10pF 50V J
C6146	NDC21HJ-100X	C CAPACITOR	10pF 50V J
C6147	NDC21HJ-100X	C CAPACITOR	10pF 50V J
C6201	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6202	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C6203	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
C6204	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6205	NCF21HZ-104X	C CAPACITOR	0.1uF 50V Z
C6206	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6207	NCF21HZ-224X	C CAPACITOR	0.22uF 50V Z

⚠Ref No.	Part No.	Part Name	Description Local
C6208	NCF21HZ-224X	C CAPACITOR	0.22uF 50V Z
R6101	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6102	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6103	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6104	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6105	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6106	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6107	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6108	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6109	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J
R6113	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6117	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6118	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R6119	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R6120	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J
R6121	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R6122	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R6123	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R6124	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J
R6125	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J
R6126	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J
R6133	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6150	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6151	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6152	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6153	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6154	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6155	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6156	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6157	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6158	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6159	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6160	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6161	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6162	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6163	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6164	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6165	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6166	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6167	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R6168	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R6169	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R6170	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R6171	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R6172	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J

LED P.W.BOARD ASS'Y (FX-7029A)

⚠Ref No.	Part No.	Part Name	Description Local
D7101	SEC1601C-X	LED	TALLY lamp RED
D7102	SECU1D01C-X	LED	TALLY lamp GREEN
D7103	SEC1601C-X	LED	TALLY lamp RED
D7104	SECU1D01C-X	LED	TALLY lamp GREEN
D7105	SEC1601C-X	LED	TALLY lamp RED
D7106	SECU1D01C-X	LED	TALLY lamp GREEN
R7101	NRS144J-391X	MG RESISTOR	390Ω 1/4W J
R7102	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J
R7103	NRS144J-391X	MG RESISTOR	390Ω 1/4W J
R7104	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J
R7105	NRS144J-391X	MG RESISTOR	390Ω 1/4W J
R7106	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J

REMOTE P.W.BOARD ASS'Y (FX-8031A)

⚠Ref No.	Part No.	Part Name	Description Local
IC8101	MAX1481EUB-X	IC	
IC8102	JLC1562BF-X	IC	
IC8103	JLC1562BF-X	IC	
IC8104	TC4066BF/N/-XE	IC	
D8101	MA111-X	SI DIODE	
D8102	MA111-X	SI DIODE	
D8103	MA111-X	SI DIODE	
D8104	MA111-X	SI DIODE	
D8105	MA111-X	SI DIODE	
D8106	MA111-X	SI DIODE	
D8107	MA111-X	SI DIODE	
D8108	MA111-X	SI DIODE	
D8109	MA111-X	SI DIODE	
D8110	MA111-X	SI DIODE	
D8111	MA111-X	SI DIODE	
D8112	MA111-X	SI DIODE	
D8113	MA111-X	SI DIODE	
D8114	MA111-X	SI DIODE	
D8115	MA111-X	SI DIODE	
D8116	MA111-X	SI DIODE	
D8117	MA111-X	SI DIODE	
D8118	MA111-X	SI DIODE	
D8119	MA111-X	SI DIODE	
D8120	MA111-X	SI DIODE	
D8121	MA111-X	SI DIODE	
D8122	MA111-X	SI DIODE	
D8123	MA111-X	SI DIODE	
D8124	MA111-X	SI DIODE	
D8125	MA111-X	SI DIODE	
D8126	MA111-X	SI DIODE	
D8127	MA111-X	SI DIODE	
D8128	MA111-X	SI DIODE	
D8129	MA111-X	SI DIODE	
D8130	MA111-X	SI DIODE	
D8131	MA111-X	SI DIODE	
D8132	MA111-X	SI DIODE	
D8133	MA111-X	SI DIODE	
D8134	MA111-X	SI DIODE	
D8135	MA111-X	SI DIODE	
D8136	MA111-X	SI DIODE	
D8137	MA111-X	SI DIODE	
D8138	MA111-X	SI DIODE	
D8139	MA111-X	SI DIODE	
D8140	MA111-X	SI DIODE	
D8141	MA111-X	SI DIODE	
D8142	MA111-X	SI DIODE	
D8143	MA111-X	SI DIODE	
D8144	MA111-X	SI DIODE	
D8145	RB051L-40-X	SB DIODE	
D8146	MA111-X	SI DIODE	
C8101	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C8102	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C8103	NEH70JM-107X	E CAPACITOR	100uF 6.3V M
C8104	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
C8105	NCF21HZ-103X	C CAPACITOR	0.01uF 50V Z
R8102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8103	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8104	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8105	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8106	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8107	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8108	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8109	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
R8110	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
R8111	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
R8112	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4
R8113	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8114	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8115	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
R8123	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8124	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8125	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8126	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8127	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8128	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8129	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8130	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8131	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8132	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8133	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8134	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8135	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8136	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8137	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8138	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8139	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8140	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J
R8141	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J
J8101	QNZ0060-001	D CONNECTOR	RS485 IN
J8102	QNZ0061-001	D CONNECTOR	MAKE/TRIGGER IN
J8103	QNZ0060-001	D CONNECTOR	RS485 OUT

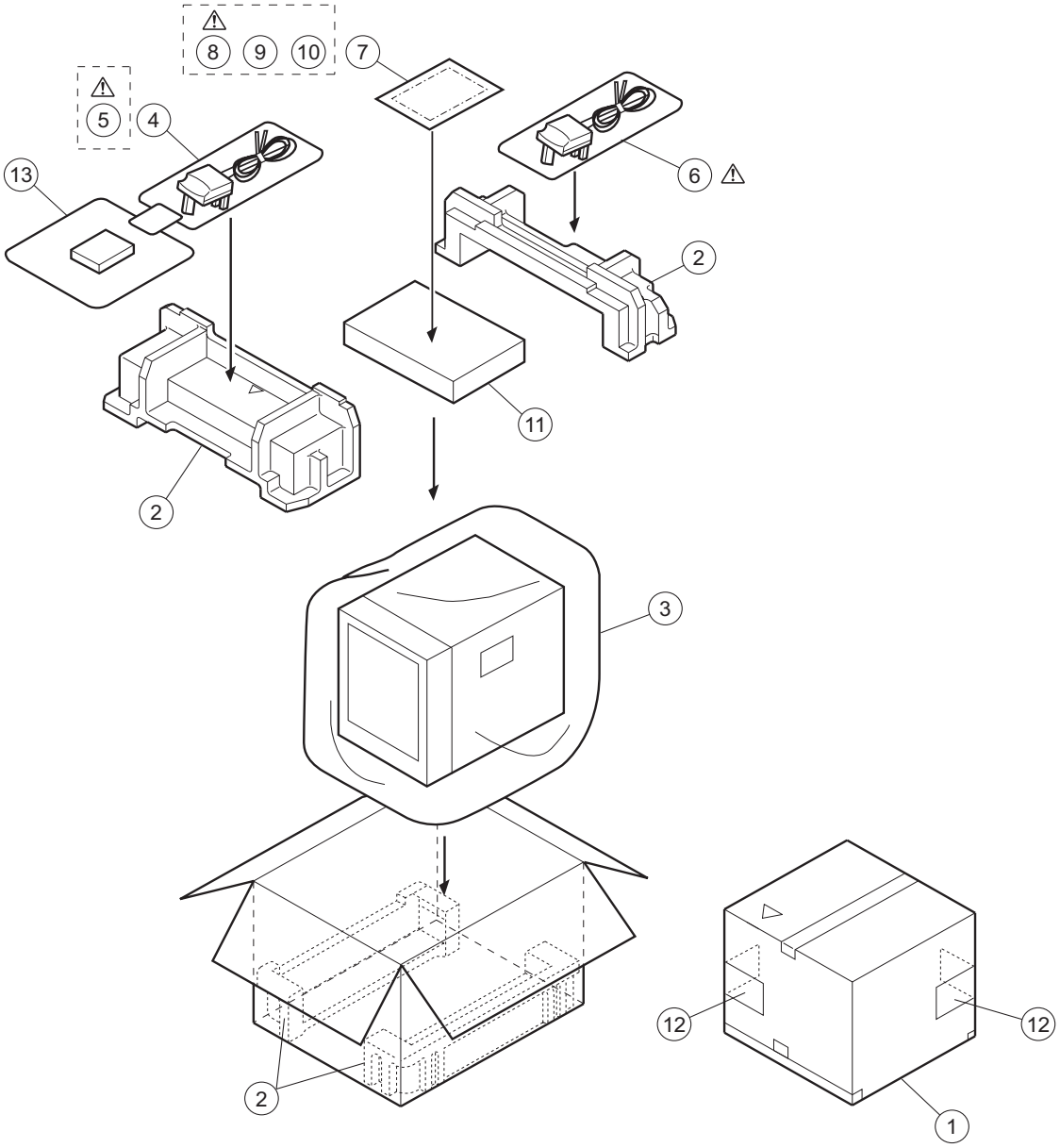
SUB DEF MODULE P.W.BOARD ASS'Y (FX-M032A)

⚠Ref No.	Part No.	Part Name	Description Local
	FX-M032A	SUB DEF MODULE PWB	

HV CONTROL MODULE P.W.BOARD ASS'Y (FX-M046A)

⚠Ref No.	Part No.	Part Name	Description Local
	FX-M046A	HV.CONTROL MODULE PWB	

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	LC10275-059A	PACKING CASE		
	2	LC10873-001C	CUSHION ASS'Y		
	3	CP30974-004	POLY BAG		
	4	QPA01203005	POLY BAG	12cm x 30cm	
⚠	5	QMP1110-244K	POWER CORD	2.44m BLACK	DT-V1710CG/U
⚠	5	QMPP070-250-K	POWER CORD	2.5m BLACK	DT-V1710CG/E
⚠	6	QMPL040-200-JC	POWER CORD(EU)	2m BLACK	DT-V1710CG/E
	7	QPA02503505P	POLY BAG	25cm x 35cm	
⚠	8	LCT1424-001A	INST BOOK		DT-V1710CG/U
⚠	8	LCT1423-001A	INST BOOK		DT-V1710CG/E
	9	BT-51010-2	WARRANTY CARD		DT-V1710CG/U
	10	BT-51024-1	SER.NET CARD		DT-V1710CG/U
	11	LC20758-003A	WIDE MASK ASS'Y		
	12	LC20989-001A-H	CORNER LABEL	(x3)	
	13	LC41257-001A	STOPPER ASS'Y		